List of Submitted Abstracts

Session 1A: Geographical Sciences for Smart Societies

Classification of Power Facilities Point Cloud Based on Topological Constraints

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Wuhan University

Currently, the overhead power line inspection based on airborne LiDAR has become a new technology. The machine learning algorithm can be well applied to LIDAR point cloud classification, but when it is applied to the point cloud classification of power facilities, it faces many problems such as a large number of computational features and low computational efficiency. To solve these problems, this paper proposes the use of multiple sets of different 2D and 3D features for the spatial characteristics of point clouds in power facilities. For different features, the first five features with better discrimination are screened and combined into a strong classifier by Adaboost algorithm. For the power line, the classifier is first used for rough classification, then the best neighbor spatial scale is determined, as a result, the coarse classification results are classified. For the power tower, due to the high similarity of the power tower and vegetation points on key features, it is difficult to distinguish the power tower and the vegetation point effectively by only using the spatial features, so the topological relationship between the power line and the power tower is introduced to classify the power tower points and the vegetation points. In order to verify the proposed algorithm, the point cloud data of power facilities in Cangzhou, Hebei Province, China, which uses the high-voltage overhead transmission facility of 550KV and 110KV, is used as experimental data. The experimental results show that the classification of power lines and power towers by our method can achieve the accuracy of manual classification results and is more efficient.

Geo-Tagged Social Media Data-Based Analytical Approach for Perceiving Impacts of Social Events

ZHU Ruoxin

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Studying the impact of social events is important for the sustainable development of society. Given the growing popularity of social media applications, social sensing networks with users acting as smart social sensors provide a unique channel for understanding social events. Current research on social events through geo-tagged social media is mainly focused on the extraction of information about when, where, and what happened, i.e., event detection. There is a trend towards the machine learning of more complex events from even larger input data.

This research work will undoubtedly lead to a better understanding of big geo-data. In this study, however, we start from known or detected events, raising further questions on how they happened, how they affect people's lives, and for how long. By combining machine learning, natural language processing, and visualization methods in a generic analytical framework, we attempt to interpret the impact of known social events from the dimensions of time, space, and semantics based on geo-tagged social media data. The whole analysis process consists of four parts: (1) preprocessing; (2) extraction of event-related information; (3) analysis of event impact; and (4) visualization. We conducted a case study on the "2014 Shanghai Stampede" event on the basis of Chinese Sina Weibo data. The results are visualized in various ways, thus ensuring the feasibility and effectiveness of our proposed framework. Both the methods and the case study can serve as decision references for situational awareness and city management.

Keywords: Social Sensing, Machine Learning, Social Opinion Mining, Topic Discovery, Visual Analysis

Top-bounded Spaces Formed by Built Environment for Navigation System

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Navigation systems help agents find the right (optimal) ways from the origin to the desired destination. Current navigation systems mainly offer the shortest path as the default optimal path. But, it is not always appreciative, for instance, on a rainy day, the path with as many roofs/shelters as possible is more attractive and pragmatic, since roofs/shelters can offer protection from the rain. In other words, the least-top-exposure path is the best in this case, which is a path considering the minimum exposure from the top as the 'optimal' criterion. Generally, there are two environments that have roofs/shelters, indoor, and the environment with roofs/shelters but not as completely enclosed as indoor (e.g., porches, we name them as top-bounded environments). Although indoor surely has the roof/shelter, it is usually being non-public, in contrast, the top-bounded environment is mostly public. Therefore, the top-bounded environments (spaces) is a very good choice (substitute) for indoor spaces for such cases. They are generally formed by built structures and exists between indoor and outdoor, and open to the public. However, such spaces/environments are completely missing in current navigation models and systems. This is partly explained by the fact that modelling the space, which is a three-dimensional boundless and extensible component (mainly out of the indoor environment), is a very challenging task. Therefore, in this paper, we focused on top-bounded spaces formed by the built environment for navigation systems, because building structures are main sources of such spaces. After investigating the definition, space model, and space attributes of top-bounded spaces, a projection-based approach is put forward to generating them. Then, taking pedestrian as example agent, generated spaces are selected based on the requirements by considering if pedestrians can visit them safely, easily, and comfortably. Finally, examples and use case study to demonstrate that our research can help to include top-bounded spaces in navigation systems/models. Further, more navigation path types (e.g., Least-top-exposure) can be offered for different agents (such as pedestrians, drones or robots).

Session 1B: Social Equality and Application of Technologies in Asia

Exploring the Logics of Interaction between Subject Bodies and Minds

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With the increasing development of Internet technology, our bodies can communicate with each other in the virtual and actual world via the media. In the meantime, the rich information and symbols are filled with the life of human beings. The phenomena have raised a series of questions on which abundant scholars are trying to reflect, such as Baudrillard's pessimistic prediction of "implosion". Regardless of whether the "implosion" is a fact or not, the core of the problem lies in how the symbols and media affect people's physical and mental thinking and interaction in the Internet era, and it is fundamental to explore the representative logic of the interaction. Based on the perspective of symbolic interactionism, taking the "presence" as the starting point and combining the sociological and philosophical connotations of "presence", this paper considers the logics of interaction between subjects' bodies and minds under the situation of "co-presence" and "non-co-presence ".In addition, this paper focuses on the distinctive interactive logic -communicating with the absent, after which this paper combines the research on the barrage texts to explain the possible paths of "communicating with the absent " in the Internet era. Those audience who are subjects can interact with each other via the barrage, communicate with objects that are not present, communicate with the virtual Me and virtual symbols, and then learn the thoughts and opinions of "the generalized other". Moreover, the interaction between subjects via barrage texts points more to the actual interaction, providing contents and capitals for the communication in reality. In addition, this paper takes the characteristics of communicating with the absent in the interaction via barrage texts as the starting point, rethink the timeliness and circulation of communicating with the absent in the Internet era, and keep reflecting on the lost body behind the subjects' experience.

Keywords: Symbolic Interactionism, Communicating with the Absent, Barrage Texts

Connected by Online Groups: How Older Adults in Urban China Use Online Communication Media for Network Management and Social Support Exchange

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An increasing number of older adults have become the active users of online communication media during recent years. Yet the existing papers on the relations between online communication media use and social networking practices are mostly based on the sample of general public or younger population while the aging contexts are rarely taken into consideration. As the aging situation may leads to different social expectations, sociability and networking strategies, it is necessary to integrate these contexts into the discussion of digital impacts.

Based on the 25 in-depth interviews with elderly WeChat users in urban China, this research explores the impacts of online communication media use on elderly people's social networking practices by highlighting the important role of online groups. It is observed that older adults' online social networking is centered by non-primary ties rather than the familial relations and connected mainly by online groups. Although aging condition sometimes limits their use of some specific functions like one-by-one chat in online communication application, old women could creatively utilize online communication media for their network building with both primary and non-primary ties and mobilize their online social networks for different forms of support exchange.

Not 404 - The Study of Network Information Behavior of Mainland Exchange Students to Taiwan

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The paper that takes mainland exchange students as a case, adopts participatory observation in the field study to investigate how they interact with the new network society after they enter Taiwanese network society, and examine how they are influenced by the mainland internet control policies for them. This paper shows that even if they step into a new network environment, they are still subject to a lot of discipline, which is reflected not only the freshness and incompatibility when they first enter Taiwan, but also the pressure of external governmentality and self-control in their specific network information behavior, and in the productivity of discourse in complex power relations. When they step back to look at the censorship system in the mainland, the discipline is manifested in emphasizing the necessity of screening and the fact that sensitive information has no effect on them, which confirms the strong third-person effect. These interactive experiences all affect their process of subject formation. Then in their reflective thinking, these exchange students expressed their doubts about what is true by raising their awareness of autonomy, but more of them were confused about what they could not rely on.

Keywords: Mainland Exchange Students, Network Society, Discipline, Subject Formation, Power Relation

The Impact of Technological Changes on Social Inclusion in Post-colonial Communities of Indonesia

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This paper is based on the fieldwork at the W community in the southern suburb of Surabaya city, Indonesia. This community was an important residential area of ethnic Chinese and Javanese during the colonial period. With the internationalization of the city, a Christian university and several factories have been founded here and these attract not only an immigration inflow, but also have brought about dilemma of multiculturalism and the elevation of ethnic consciousness. With the knowledge and technology flow within each ethnic group, the lack of social solidarity and increased mutual distrust of human beings in this community have amplified lifestyle anxiety. This paper aims to study on the adverse effects of technological changes on group-specific propensities, which is relating to the social inclusion.

In order to achieve this purpose, this paper will carry out the following items. Firstly, I will present the specific aspect of the lack of social solidarity and village relationship and the existence of mutual distrust of people. Secondly, I will describe the adverse effects of knowledge and technology flowing on building and maintaining interpersonal relationships and then explore the answer to the question that why such technological changes could impede the expansion of human networks. Last but not the least, through searching the formation conditions of exclusivity from the technological changes, I will demonstrate the diversity of social exclusion due to group-specific propensities.

Keywords: Knowledge, Technology, Social Inclusion, Group-specific Propensities, Ethnic Chinese, Javanese

The Association of Park-based Physical Activity with Their Correlates Among Elderly People: A Comparative Study between Hong Kong and Wuhan

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This study aims to explore the relationship between park-based physical activity (PA) of elderly people and psycho-social factors and perceived park environmental factors by using face-to-face questionnaires and mathematical statistics, in the comparison between Hong Kong and Wuhan.

A total of 637 elderly people in Hong Kong (n = 317,Mean age= 69.96 ,SD=6.78) and Wuhan(n = 320,Mean age=67.09,SD=5.56) from selected parks were invited to take part in the face-to-face questionnaires which include the questions about demographic factors, psycho-social factors, perceived park environmental factors and self-reported park-based PA with the Cantonese or Mandarin version during spring and autumn.SPSS22.0 was used to analyzed the collected data.

According to product-moment coefficient of correlation, it showed that self-efficacy, enjoyment, benefit and perceived barriers in psycho-social factors were significantly associated with park-based PA among elderly people in Hong Kong($r=0.335, p < 0.001$; $r=0.301, p < 0.001$; $r=0.310, p < 0.001$; $r=-0.397, p < 0.001$). Additionally, it was revealed that benefit and perceived barriers in psycho-social factors were significantly associated with park-based PA among elderly people in Wuhan($r=0.302, p < 0.001$; $r=-0.141, p < 0.05$). Furthermore, it showed that city differences in self-efficacy($t=15.81, p < 0.001$), enjoyment($t=15.78, p < 0.001$), benefit($t=18.12, p < 0.001$) and perceived barriers($t=-21.67, p < 0.001$) of psychosocial factors and safety($t=9.968, p < 0.001$), attractiveness($t=-12.76, p < 0.001$) and access ($t=2.23, p < 0.05$)of perceived environmental factors by independent t-test.

Session 2A: Agents and/or historical developments of science and innovation

Technology of "Washing Injustice Away": Forensic Inquest as a Socio-technical System in Shanghai Settlement

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Since 1860s, Municipal Council and western assessors in Mixed Court, had constantly been intervening Qing's district magistrate's jurisdiction over Chinese subject and treaty-unrepresented foreigners in Shanghai settlement. Foucauldian techniques, death registration and anatomy-based forensic medicine, were central to western governmentality and extraterritoriality in 19th-century Shanghai. Scientific modernity constituted a sense of West superiority over China's criminal justice and forensic inquest—standardized external postmortem examination guided by Washing Away of Wrongs. Indeed, the western physician and coroner kept demanding to take over crucial inquests in settlement for alleged public health and judiciary efficiency consideration till 1900s. The 19th-century English beleaguered coronership in home, however, Qing and British flexible multi-ethics governances, complicate our understanding of the Western forensic modernity in Shanghai settlement.

Most importantly, despite western physician had proven the strength of autopsy in detecting pathological cause of unnatural death—revealing "fact" to Qing officials. However, the efficacy of inquest lied more in exhibiting the "truth" and leading to "justice", than scientific "fact" alien to indigenous knowledge in modern China. Truth and justice were not only linked to measurement of penalty by Qing Code, but also history-rooted and locally perceived ideas requiring consensus among participants in litigation. Only with interrogating relatives of deceased, and prestigious members in local communities, and referring to body evidence stipulated in official diagram of inquest, the manslaughter litigation can be adjudicated with less appeal. Traditional inquest was by no mean a single "technique", but a set of "technology" embedded in sociotechnical system which was hard to accommodate a radically different forensic medicine. Modern forensic medicine had never prevailed over traditional practices in Shanghai, until 1920s when laboratories and modern mortuary for isolating furious and desperate relatives of deceased, new criminal justice aiming for abolishing extraterritoriality, and social discourse pursuing scientific fact, transformed the landscape of Washing-Injustice-Away technology.

The Analysis of the Influence of the 1918-1919 Influenza on the Social Revolution in Postwar World

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The 1918-1919 Influenza was an epidemic disease with an unprecedented scale, a high fatality rate, and an extremely fast spread rate. The impact of influenza on the social revolution is multi aspect and complicated. It has promoted the post-war world spiritual crisis and the rise of pacifism and appeasement from an ideological point. And from the point of the reform and development in the medical and health field, the pandemic has provided excellent research and experimental objects for the development of modern medicine, especially preventive medicine and virology, and has promoted the reform of the medical system. Finally, the social turmoil caused by the pandemic has directly contributed to the fight for Woman's Equal Rights Movement and The Spanish Civil War.

Keywords: Influenza, Social Transformation, Ideology, Medical system, Political Movement

Becoming Agents of Technological Change

Medium and Long-Term Science and Technology Program in China Basing on Historical Research

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The development of science and technology (S&T) in the modern world is affected by many social factors. Since the end of World War II, a new scientific research model known as "big science" has been rising. In the meantime, as the Third Technological Revolution gradually unfolds, the world has seen nonlinear, uncontrollable technological developments accompanied by growing global awareness of the negative effects of scientific and technological developments. The increasing importance of scientific and technological advances in the game of nations is a major driving force behind the emergency of the concept of "S&T planning."

A S&T plan is a forward-looking programmatic plan of a country or government that establishes a guiding framework for the development of S&T in the country or jurisdiction of the government. In China, S&T plans have distinct Chinese characteristics and their corresponding era. The study of medium-and long-term S&T plans issued by the Chinese government since the founding of the People's Republic China (PRC) is an important subfield of the history of contemporary S&T in China. The principles of a S&T plan refer to overall guidelines, fundamental views and development goals that underpin the S&T plan. The principles of a Chinese S&T plan are usually reflected in the concisely written but meaningful guidelines and are at the core of the planning system. They are the foundation of the entire scientific and technological plan and reflect policymakers' understanding of the history of S&T and the art and science of planning. To gain insight into the strengths and weaknesses of China's S&T planning system, it is necessary to study the evolution of Chinese S&T plans and planning principles over the past few decades. It can help us gain more holistic understanding of China's S&T system and history.

Keywords: Medium and Long-Term Science and Technology Program, History of science, Principles of a Chinese S&T, Contemporary China, Innovation

Policy Text Analysis of Science and Technology Talents Policy in China's Science and Technology Development Planning since the Founding of New China

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Scientific and technological talents play an important role in the process of Scientific and Technological Development and Innovation. Talents of science and technology are a powerful driving force for innovation. We are beginning to have some insight in China's Personnel policies can better train technician in high quality, optimize the allocation of human resources, cooperate with the needs of the modern productivity development, and constantly enhance China's comprehensive national strength.

Since the founding of New China, a total of 10 Scientific and Technological Development plans have been promulgated. These policies not only witness the rise of China's scientific and technological point of focus, but also describe the blueprint for the development of China's development in the future. This paper selects the policy texts about the development of scientific and technological talents in the China's Science and Technology Development Planning, and analyses the orientation of the talents polices since 1956, the focus of the development of talents by the state and the support of the National Policy for the talents of science and technology. In this thesis, qualitative analysis method is adopted as method. This paper considers the trend of the theme focus of science and technology talents policy in different historical periods, explores the process of the evolution of policies from imperfection to perfection, and looks forward to the talents policies variation in the next five years, which shows these policies in China is becoming more perfect and more suitable for the needs of productivity and social development.

Session 2B: Agents and Historical Developments of Science and Innovation

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The Special Interpretation of the Adultery Law under the Male Discourse in Ancient Athens

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In ancient Greece, the legal norms and constraints on people's sexual behavior were directly related to the stability of marriage contract, the legitimacy of civil rights, the safety of property inheritance and transfer, and other vital social factors. Athens' adultery law was unique in history, which was not only different from today's understanding of "adultery", but also distinct from the relevant provisions of other ancient societies. This paper will explore the special interpretation of the ancient Athens adultery law under the patriarchal discourse from the aspects of crime judgment punishment and reasons.

Keywords: Ancient Athens, Adultery, Punishment

Discussion on the Sacred–Profane Dichotomy Posited by Émile Durkheim: A Case Study of Theravada Buddhism in China

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Émile Durkheim proposed the dual division of "the holy world and the mundane world" in The Elementary Forms of Religious Life, and since then "the sacred and the profane" has become a pair of classical categories in religious sociology. Durkheim pointed out that the sacred and the profane are completely different with an absolute gap. In my opinion, the sacred-profane dichotomy plays an important role as well as its limitation in guiding contemporary Chinese religious studies. Based on the analysis of Buddhist monks, relics, sanctums, ceremonies, celebrations, doctrines, education and other aspects in the Theravada Buddhism of China, the interactive relation between the sacred and the profane can be revealed, which is inseparable, integrated and blended. As far as I am concerned, the "sacred and profane" is not diametrically opposite, completely isolated or totally dualistic, but can be intertwined and combined to form a harmonious and mingled structure characterized by "sacred & profane embedded ".

Keywords: The Sacred, the Profane, Theravada Buddhism, Mutual Embeddedness

Tängri Qaghan: A Spirit of Ethical Inclusivity in Early Tang Dynasty

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Tängri Qaghan was the title given to the emperor Tang Taizong (r.626-649) by the leaders of the northern and western ethical regions in 630, it became the beginning of the Chinese bibliographies called the Tang emperor as Tängri Qaghan. Later historians regarded it as a model of powerful nation and highly integrated ethnic groups of early Tang dynasty. Emperor Taizong adopted a tolerant and equal ethnic policy, he accepted the Tängri Qaghan title according to the political habits of the nomadic groups, fully absorbed the advanced traditions in politics military and culture of the nomadic groups at the national construction. All actions had created an atmosphere of mutual respect and mutual love. "Since ancient times, the Chinese emperor always think highly of Chinese and look down the nomadic groups, I respect them unprejudiced" is a motto about the ethnical relationship in early Tang dynasty, it is also the true reflection of a prosperous and open society in that time. Respect, learning, equality and inclusiveness were the characteristics of China in the early tang dynasty, Lineage, culture, belief and race were not obstacles to integrate into the society. Such a spirit has created an unprecedented powerful nation, made the dynasty a very famous reputation in world history.

Keywords: Tängri Qaghan, Tang Dynasty of China, a Spirit of Inclusivity

The Application of GIS System in Analyzing Regional History

ZHAO Ke

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This study is about spatio-temporal analyses of religious establishments in ming dynasty of China.I will choose several coutries of eastern zhejiang province as samples. By means of comparative analysis, quantitative analysis qualitative analysis and geographical analysis, I will investigate the regular pattern of buddhism development in eastern zhejiang province during 1368-1644 and its relationship with the change of social structure.

Specifically speaking, for the comparative study, the objects for analysisare counties of wenzhou and taizhou. In terms of quantitative research, the statistical data include the number of temples, tax revenue, population and land. In the aspect of geographicalanalysis, the topography, rivers, transportation, urban and ruralbuilding structures in eastern zhejiang are mainly investigated. In terms of qualitative research, this research mainly investigates the relationships among central administration, prefectures and counties, supervisory and military systems in the Ming dynasty, and at the same time exploring dynamic interaction of between construction of local buddhist temple and the differernt systems, thus observing the relationship between the central and local government.

At the same time, the study will also investigate the influence of social unrest, land system, and reform of taxation on temple construction, so as to analyze the changes of power in the temple field and the relationship among different communities and social structures. In general, in order to ensure the accuracy of the research, this research will combine qualitative research with quantitative research, macroscopic research and case study together.

Session 3A: Innovative Technologies in Sports and Health Promotion

The Effect of Mindfulness Training on Chinese Elite Badminton Athletes' Mental Health:
A Randomized Controlled Trial

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The present study aimed to evaluate the mindfulness-acceptance-insight-commitment approach (MAIC) could improve Chinese elite badminton athletes' acceptance, training and competition satisfaction, as well as reduce depressive symptom.

Using randomized controlled trial, a total of 49 Chinese elite badminton athletes (male=29, female=20) were randomly assigned to either a mindfulness group (n=25) and waiting-list control group (n=24), with a seven-week intervention program. All psychological variables were assessed at pre-intervention, post-intervention, and three-month follow-up. Two-way repeated measures ANOVA revealed that compared with control group, the mindfulness group had significant improvements in experiential acceptance ($F_{(2,47)}=36.744$ $P < .001$, $\eta2=.439$), training and competition satisfaction ($F_{(2, 47)}=28.577$, $P < .001$, $\eta2=.378$), significant reduction in depressive symptom ($F_{(2, 47)}=46.791$, $P < .001$, $\eta2=.499$).

In conclusion, the MAIC approach, which combines Chinese culture elements such as socially oriented values, acceptance-based coping with adversity, and commitment in the face of adversity, was applied to the training program for badminton athletes. In summary, this study provided initial evidence supporting the application of the MAIC training for badminton players. It was concluded that the MAIC approach could improve the acceptance, training's and competition's satisfaction, and reduce depressive symptom in Chinese elite badminton athletes.

Keywords: Mindfulness Training, Acceptance, Training and Competition Satisfaction, Depressive Symptom, Mental Health

Connecting, Competing and Surveilling: The Gamification of the Quantified Self on "WeRun"

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The concept "self-tracking" has recently attracted a lot of attention from researchers with fast-growing literature discussing the trend people "monitor and record specific features of their lives" in order to obtain self-knowledge and achieve better self-control with the assist of mobile apps and wearable devices. In sociological self-tracking studies, the micro level studies, focusing on the interaction among the body, the self and the machine, and the macro level studies, which discuss self-tracking practices in a larger sociological, cultural and political background, usually related to surveillance and privacy, have been relatively comprehensively analyzed both in theoretical and empirical articles. Yet the meso level, concerning interpersonal and communicative aspects of self-tracking, lack full inspections.

To supplement the lack of the current study, the proposed study introduces a new theoretical perspective by Whitson (2013), "Gaming the quantified self", to explore the interpersonal aspects of self-tracking practice on WeRun, a widely adopted social fitness plugin in the prevalent Chinese social media WeChat. The study tends to analyze personal records and representations about WeRun on Sina Weibo and explore the mechanism of gamification and the effect of connecting, shaping or even changing Chinese interpersonal relationships. Specifically, it will address the following questions: How do individuals view or interpret the "rules" of WeRun? What are the goals of the game, and what are regarded as pleasure or fun evoked by WeRun? As enlightened by this theory, which classifies surveillance into three extent, including self-participatory and hierarchical surveillance and encourages neutral discussions on surveillance issues, how do the triple aspects of surveillance work and correlate? How does WeRun connect people based on the mediated body and reshape interpersonal relationships? And furthermore, what is the meaning of an individual's engagement and exit of the game?

Keywords: Self-tracking, Quantified Self, WeRun, Gamification, Surveillance

The Relationships between Time Perception and the Completion Rate of Close-body Fast Attack among Volleyball Juvenile Athletes

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Wuhan Sports University

It has been widely acknowledged that time perception is critical to the athletic performance regarding racket sports (e.g., tennis, table tennis). However, the evidence of the relationship between time perception and athletic performance in the context of volleyball is lacking. This paper aims to examine the relationship between time perception and juvenile volleyball athletes' technical completion rate of close-body fast attack.

Using the video record technique, information were obtained including 1) the time of middle blocker jumps away from the ground (T1); 2) the time setter sets the volleyball out of his hands (T2);3) the quality (success/failure) of the related close-body attack. The quasi-experimental design was conducted. Five intervals for T (T=T1-T2) are selected, whose related success rate are over 40%: -0.04s, 0.00s, 0.04s, 0.08s, 0.12s. SPSS22.0 was used to analyze the collected data.

The results indicate that in the process of completing the close-body fast attack, when the middle blocker jumps away from the ground, the setter sets the volleyball out of his hands at the same frame (0.00s), or when the middle blocker jumps away from the ground after the setter sets the volleyball out of his hands by the next frame (0.04s), the success rate of spiking is significantly higher than any other time groups ($p < 0.05$).

In conclusion, by using such research methods as field experiment and the analysis of video, it is possible to measure and evaluate the time perception ability of athletes, which is based on the method of Systematic Observation, and it is a feasible research method. It is hoped that in the process of training, coaches should clearly explain the concept of synchronization and its accuracy in time, recognizing the important role of time perception in the close-body fast attack technology of Juvenile volleyball athletes, and actively explore how to effectively cultivate athletes' time perception ability with his professional training experience.

Keywords: Time Cognition, Juvenile, Volleyball, Close-body Fast Attack

Design of Mental Health Management System for Athletes with a Disability

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A large number of mental health management system are available to the public but current knowledge about mental health management for athletes with a disability is scarce, especially from disability types and sports items. Due to the significant role of mental health management system in the sports team, identifying the design requirements of the system is crucial. Some of those requirements have been addressed in some studies, but there are few literatures that show a comprehensive picture and various details of this field.

This study aims to facilitate such holistic understanding through exploratory review and design mental health management system by programming language. The main search keywords of the review were E-mental health, mental health online, mental health app and etc. The search was started by finding some core references in the CNKI, Pub-Med and EBSCOhost (ASP/BSP) databases. A wider range of references then has been explored using a snowball sampling. Then using multiple programming languages implements the System.

Findings showed that there are some of individual design categories in current literature but there are few examples of combining different design categories. Most studies on mental health management address major mental health issues and promote sport performance while Individual life and communication areas are underdeveloped.

Keywords: Mental Health Management, Athletes with a Disability, E-mental Health, Design Requirements

Session 3B: Innovative Technologies in Sports and Health Promotion

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The Role of Proprioception in Throwing Movements — Using the Functional Assessment of Biomechanics (FAB)

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As an important source of sensory information, proprioception has been assumed to provide an important contribution to skilled tasks, athlete selection, as well as for proprioceptive training for rehabilitation of sports injuries. In specific, plenty of proprioceptive measurements have been widely investigated and shown significant predictive validity in throwing movement performance. However, the Functional Assessment of Biomechanics (FAB) (Biosyn Systems, Canada) was rarely involved in proprioception measurement, which has demonstrated accuracy superiority and further higher ecological validity in proprioception assessment. Owing to the great significance of proprioception in sports training and selection, it is necessary to apply this technology to the researches, thus we carried out this study to examine the effect of proprioception on throwing movements.

A total of thirty-four healthy participants (18 males, 16 females) of mean age 21.68 ± 1.77 years were recruited and administered throwing tasks, i.e. throwing the dart (20 g) at the target in a 1.25-meter distance with their dominant arms. Using FAB as the measurement instrument, the active position reproduction test (i.e. reproducing the target position without feedback) was adopted to measure proprioception, which is the most commonly employed experiment protocol/paradigm.

The results suggest that throwing movement performance is partly determined by performers' proprioceptive acuity of the movement-related limbs, and FAB could be used to measure proprioception. Based on the findings of the present study, it is suggested that appropriate proprioceptive training could be beneficial in improving throwing performance in sports such as baseball, softball, javelin, and basketball.

Keywords: Proprioception, Throwing Movement, Feedback, Functional Assessment of Biomechanics (FAB)

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Influencing Factors in Chinese Elite Divers' Optimal Psychological States

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With the continuous development of diving events in China, in recent years, divers' psychological states and relevant theories have aroused widespread interest of both indigenous and international scholars. Divers generally need to complete 5 to 6 rounds in preliminaries, semi-finals or finals, and be ranked by their total scores. For most divers, being able to enter the finals means that they have the ability to complete all the dives, therefore, athletes and coaches often attribute outstanding performance and achievements to optimal psychological states in pivotal games.

This study investigated the factors that could influence the optimal psychological states underlying excellent performance in 10 divers (Mage = 23 years, SD = 3.2). Furthermore, we sought athletes from Chinese National Diving Team to explore consistencies in the psychological states experienced. Specifically, we recruited athletes belonging to world-class elite standards, where 5 Olympic champions, 1 Olympic runner-up, and 4 world champions are included, among whom are 4 athletes participated in synchronicity categories in 2016 Rio Olympic Games.

The data were analyzed thematically. Through nine-month participatory observation, guided assessment and face-to-face interviews, this research confirms that the influencing factors can be conceptualized as internal factors and external factors. The internal factors include the abilities of self-talking in competitions, mental regulation in the face of difficulties, and self-cognition after triumphs; the external factors include communication with coaches, home advantage, significant others, impression of referees and interpersonal relationship. These findings extend current knowledge of the optimal psychological states and are discussed in terms of implications for future research and applied practice.

Keywords: Diving, Elite Divers, Optimal Psychological States, Influencing Factors

Application of Shanghai University of Sport Athlete Testing Software in Teaching and Training

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In traditional sports teaching and training, we often use some auxiliary means, such as testing the athlete's nerve activity intensity and tolerance by tapping speed experiment, and testing the athlete's "reading competition ability" by predicting the result of the game. However, these means have some minor problems. The tapping speed experiment requires a tap speed tester, which is not convenient to carry. Athletes' prediction of game video also needs a professional record to reveal the changes in their "reading competition ability". To this end, we have compiled the "Shanghai University of Sport Athlete Testing Software" (software copyright number: 2017SR650169). We replaced the tapping speed tester with a computer program, avoiding physical faults and errors, and presenting the results as soon as the test is completed. We replaced the tapping speed experiment with a computer program to avoid physical faults and errors, and to present the results immediately when the test is completed. The measurement of the "reading competition ability" is set by three different methods by default: "observing the state of the athlete in an attack and defense", "observing the state of the athlete in two offenses and defenses", and "judge the ball's landing point". Users only need to simply edit the video and set the correct answer in the program to test and get the result when the test is completed. All test results will automatically generate a file according to the name or number of the participant, and save it in the root directory of the program. This software thus greatly enhances the efficiency of sports teaching and training, and provides a library of personal abilities and status that can be traced back to the athletes.

Keywords: Sports, Athlete, Reading Competition Ability, Software

Neural Bases of Auditory Rhythmic Entrainment:

Neural Mechanism Underlying Music Therapy in Motor Disorders

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Rhythmic entrainment refers to a stable temporal relationship between an external stimulus and an endogenous rhythm, and is one vital mechanism underlying music therapy/intervention for movement disorders associated with a diverse array of disorders, such as Parkinson's Disease, stroke and cerebral palsy etc. Since the early 1990s, clinical studies on entrainment for therapeutic proposes have demonstrated that changes in motor patterns can be elicited by auditory rhythmic cues and continue in weeks. The goal of this review was to present the theoretical implications and empirical evidences about rhythmic entrainment as an important principle of music therapy, by describing the phenomena and characterizing the associated underlying brain processes.

This article first reviewed the literature in the PubMed, ScienceDirect, WOS, EBSCOhost and ProQuest database from 2013-2018 on rhythmic entrainment, music-based therapy/intervention on motor disorders, Parkinson's Disease, stroke and cerebral palsy patients as subjects. We discover the following results: (1) Rhythmic auditory stimuli (RAS) show superiority over other modalities on readily modulating and entrainment motor movements, due to its high temporal fidelity. (2) Auditory-motor entrainment is associated with coupling between the auditory and motor system, starting subcortically with the motor-reticular response. It also involves cerebellum, basal ganglia, supplementary motor area (SMA), pedunculopontine nucleus (PPN) and premotor cortex. (3) Comparative studies between PD patients and typical development (TD) suggest that strengthened right-lateralized auditory and corticocerebellar activity may present compensatory/adaptive responses that emerged after the training using RAS in PD. (4) These studies adopted relatively consistent paradigms but varied in therapeutic effects depending on experimental methods (i.e., the rhythm presentation and the temporal structure of RAS).

Our finding suggests that rhythm/music-based interventions should be tailored depending on the behaviors/symptoms and specific populations. Furthermore, studies on functional connectivity and neurotransmitter functions are needed to clarify the relationship between rhythmic entrainment and its therapeutic effects on motor disorder symptoms.

Keywords: Rhythmic Entrainment, Rhythmic Auditory Stimuli, Music Therapy, Motor Disorder, Neural Mechanism

Speed of Processing and Personality:

The Influence of Personality and Extrinsic Feedback on Performance of Cognitive Tasks

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Feedback is considered as an effective means of motivating, guiding and reinforcing desired behaviours. However, the ways to interpret external feedback may be different among individuals in different personalities. Therefore, personality traits may influence the effects of feedback on performance. In this study, the moderating effects of personality on different styles of feedback on cognitive task performance were examined.

A within-subject exploratory research was conducted. In total, 70 participants, with average age at 31.2 years old, were involved in the experiment. Participants were given 3 Stroop tasks, being a dependent variable to test a person's speed of processing information after receiving feedback; and 2 Trail Making Task, being an independent variable for researchers providing feedback. Also, a personality test *(IPIP-NEO 120)* were given to record the personality traits of each participant. The focused results were done through a correlation analysis to prove the relationship between personality, demographic variables, experimenter and feedback. Corresponding to the correlation results, both linear regression and binary logistic regression have been shown and interpreted, at the same time, acting as a tool to verify the validity of the sample data.

The statistical analysis indicated that performance from those with higher levels of conscientiousness were more likely facilitated by negative feedback and Extraversions were less decrement towards negative feedback as well. The results of Extraversions were further proven by the significance of the correlation with the median response time of both neutral and positive feedback differences ($r=0.205$, $p=0.044$); as well as neutral and negative feedback differences ($r=0.201$, $p=0.047$). Also, it demonstrated the moderating effect of personality and feedback, affirming that individual differences do alter a person's information interpretation and performance.

Owing to the narrow demographic background of participants, experimenter effect and limitation of the sample may have reduced the research representativeness. Nonetheless, there should be more potential influencing factors need to be included; and further research is needed to explore the relating factors that might influence the effectiveness of feedback for particular individuals.

A Pilot Study on Validation of the ActiGraph Accelerometer in Ambulatory Children and Young Adults with Cerebral Palsy

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The study aimed to establish thresholds of the ActiGraph accelerometer counts to determine sedentary time and moderate-to-vigorous physical activity (MVPA) using oxygen consumption as the criterion.

Ten children and young adults with CP (mean age 14.5 ± 4.2 years, 60% females) wore an ActiGraph monitor (ActiGraph GT3X-BT) and Calorimeter Vmax (Sensor Medics) during seven activities, including sitting and reading, sitting and watching television, standing, standing and moving, slow walking at 2.0 km/h, brisk walking at 3.0 km/h, and fast walking at 4.0 km/h. Individualized resting metabolic rate (RMR) was also determined by measuring oxygen uptake (VO_2). VO_2 during the activities was then converted to METs and clarified as sedentary (< 1.5 METs) or MVPA (≥ 3 METs). Accelerometer data was calculated as counts per 3 s and counts per minute (CPM) in vertical axis (VA) and vector magnitude (VM), respectively. Multiple regression analyses were performed to derive equations to predict METs from accelerometer counts.

For predicting METs from counts, the multiple regression analysis model yielded the r^2 = 91.2% (standard error of the estimate [SEE] = 0.60106) in VM; and the r^2 = 88.6% (SEE = 0.68885) in VA. To determine sedentary time, multiple regression analyses indicated a threshold of < 11 counts per 3 s and < 240 CPM in VA, while < 26 counts per 3 s and < 240 CPM in VM. For classifying MVPA, the analyses presented a threshold of ≥ 79 counts per 3 s and ≥ 1740 CPM in VA, while ≥ 105 counts per 3 s and ≥ 1993 CPM in VM.

In conclusion, the developed ActiGraph thresholds, especially using counts in VM, may be useful for predicting METs values from accelerometer counts and for determining sedentary time and MVPA in children and young adults with CP.

Keywords: Validation, MET, Counts, Intensity

Session 4B: Technology-Assisted Teaching and Learning in Modern Education

Study on the Influence of "Family Effect" on Primary School Students' Participation in Sports

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In order to explore the "family effect" of primary school students and its impact on physical activity, the pupils' physical and mental health development was further promoted. The content and characteristics of the affection effect of primary school students and their influence on the participation of primary school students were analyzed. According to the modern health concept, the concept of health is broadened to three aspects: physical, psychological and social adaptability. Only by participating in sports can primary school students meet the health requirements of modern health concepts. In order to better promote the healthy development of children's physical and mental health, parents should pay attention to the role of family members in the physical activities of primary school students. It should also be clear that more family love and emotions can make children grow up better and become talented. Studies have shown that the "family effect" includes emotional response, emotional communication and emotional orientation; sports participation includes sports participation motivation, sports participation attitude and healthy behavior. On this basis, the research will explore the psychological mechanism of the "family effect" on the participation of primary school students.

Keywords: Primary school students, Affection effect, Sports participation

The Impact of Technology-assisted Teaching on Teenagers' Cognitive Ability — An Empirical Research Based on HLM

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According to Piaget's theory of cognitive development, adolescence is an important period for cognitive development. Teaching situation plays an important role in cognitive development of teenagers. Most researchers pay more attention to the various factors which influences the cognitive ability, there is still fewer research on how technology-assisted teaching affects teenager's cognitive ability in formal school system. This paper aims to explore (1) whether teenagers' cognitive abilities can be affected by technology-assisted teaching; (2) to what extent can the differences in cognitive abilities of teenagers be explained by this factor;(3) the mechanism of technology-assisted teaching on teenagers' cognitive ability. By applying China Education Panel Survey data (CEPS) and multilevel analysis model (HLM), we find that: (1) traditional family factors and learning environment factors are not the only sources of cognitive ability differences among teenagers. Technology-assisted teaching had a significantly positive impact on teenagers' cognitive ability difference after controlling family background and class situation. (2) about a third of the differences in the cognitive abilities of the teenagers surveyed were from the class, namely the teaching situation. (3) Technology-assisted teaching not only can directly affect the cognitive ability of teenagers, but also have an indirectly influence through parents' education level and parents-children interaction activity intensity. (4) the influence of technology-assisted teaching has significant heterogeneity among different family background: if parents have higher education level or higher degree of family parents- children communication, then the positive effect of technology-assisted teaching will be stronger. We also find that family capital can be applied to children' cognitive ability through economic, cultural and social channels, only the household status has positive and significant impact on cognitive ability, while gender and grade variables show no significant difference. This paper can provide references for further understanding of technology-assisted teaching mechanism in the development of teenagers' cognitive ability.

Exploring a Chinese University EFL Teacher's Pedagogical Content Knowledge for Teaching Topical Debates

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Teachers play a crucial role in effective language teaching, which involves curriculum design, pedagogy, context, teacher knowledge and learner factors. Teachers' pedagogical content knowledge (PCK) is a type of knowledge that is unique to teachers, and it has been considered one of the core components of teacher competence. PCK represents the blending of content and pedagogy into an understanding of how particular aspects of subject matter are organized, adapted and represented for instruction. Recent studies have showed PCK impacts instruction quality and student progress. This qualitative multiple case study examines a Chinese University EFL teacher's PCK from the perspective of teaching topical debates. Data include class observations, teacher interviews, student interviews, reflection journals and different course syllabuses. This study seeks to enhance teacher educators and policy-makers' awareness of the specific subject matter, as well as deepen their understanding of speaking instruction and instructors. It also aims to serve as a reference for more EFL teachers to improve the quality of teaching speaking and hence facilitate their professional development under the context of English curriculum reform.

Keywords: Pedagogical Content Knowledge, Topical Debates, Constructivism, Reflective Practice, Professional Development

Dissociation between Tone and Segment Processing in Mandarin Sentence Comprehension: An Event-related Potential Study

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Although tonal information is indispensable for spoken word identification in Chinese, many details about tone processing remained inconclusive. Among these issues, whether tone is integrally or separately processed with segment is one which has been the focus in previous studies. To clarify this issue, the present event-related potential (ERP) study investigated tone and segment processing during Mandarin sentence comprehension with violation paradigm. The results showed that compared with segment violation condition, tone violation condition elicited a smaller N400 effect and a larger P600 effect, suggesting that tone mismatch lead less semantic integration difficulty and is easier to be repaired than segment mismatch during Mandarin sentence comprehension. The unequal roles of tone and segment found in the study supported the dissociation between tone and segment processing.

The Associations between Maternal Parenting Style and Sibling Relationship Quality: A Comparative Study of China and the United Kingdom

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There are different cultural traditions and family policies in China and the UK, which has resulted in relatively few mothers in China having two children, although it is more common in the UK. Compared with previous research, this quantitative study not only investigates the associations between maternal parenting style and sibling relationship based on Baumrind's theory, but also make a comparison between the UK and China. A total number of 107 mothers (55 from the UK and 52 from China) who had exactly two children (both aged between 4-to-17 years) participated this research by completing online Questionnaire of Parenting Style and Sibling Relationship (QPSSR). There were three main findings: Firstly, there were no significant differences between the UK and China in terms of sibling relationship quality. Secondly, compared by countries, there were significant differences in the level of authoritative parenting towards both children between the UK and China; also, there were strong differences in permissive parenting towards younger children between the UK and China. Thirdly, there was a significant negative correlation between sibling conflict and authoritative parenting in the UK; and there was a significant negative correlation between sibling conflict and authoritarian parenting in China. This study may give mothers a better understanding of the specific behaviors between their children and mothers may get ideas of helping to promote sibling relationship quality in the future.

Keywords: Maternal Parenting Style, Sibling Relationship Quality

Session 5B: Politics and Contemporary Debates on Technological Changes or Issues on Inclusivity

City Content VS Audio-Visual Language：Why City Image Short Videos are Popular on

Tiktok

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The officially city image films have been effective way to disseminate the city image and establish the city brand. The rise of short-form video platforms featuring User Generated Content(UGC) have prompted ordinary citizens to become participants in urban characterization and practice. This study analyzes the content of 239 short-form videos about #Find Wuhan in 15 seconds# on TikTok , which goes by the name of Douyin in China，and explores the influencing factors of communication effects of the city image. Results show that there is significant difference between institution and individual in the content presentation and audio-visual language. The official accounts are more likely to upload promotional videos about the tourist attractions or the tourism festival, while the individual users are more likely to upload various topics related to their daily life styles, such as urban landscapes, dancing, food and tourism. On the Tiktok platform, the communication effects in city image videos produced by the ordinary users are significantly stronger than the institutional accounts. This challenges the social media based on Weibo, the influence of official institutions are greater than ordinary users. There is no direct causal relationship between shooting skills and communication effects , but the post-production such as adding music and visual effects will affect their communication effects. In the era of the mobile short-form video, the construction of the city image should combine the UGC model with the traditional PGC(Profession Generated Content) model to form the PUGC model. This model allows the citizens' video production and the daily perspective to reshape the image of a city, forming responses to and challenges of mainstream productions.

When "WeChat" Turns to "We tired": An Empirical Explanation on Social Media Fatigue (SMF) by Understanding Perceived Privacy

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Nowadays, individuals experience fatigue, even develop intention to quit while using social network sites, such as WeChat, which were originally intended to provide hedonic value to users. Based on the studies of "Technology non-use", Researchers proved that "Social Media Fatigue (SMF)" was the main factor. Previous studies that used qualitative and quantitative methods showed that "perceived overload (PO)", "privacy concern (PC)", and "attitude toward social media (ATSM)" were three elements which had significant impact on SMF. Based on previous study and literature research, I use "Privacy Calculate Theory", "Communication Privacy Management Theory" and "Cognitive Load Theory" to propose and evaluate a new research model which contains 6 factors, including "social media attitude (SMF)", "privacy concern (PC)", "perceived overload (PO)", "attitude toward social media (ATSM)", "self-disclosure (SDC)", "privacy boundary management (PBM)" and "social media fatigue (SMF)", which has a higher explanatory than previous one. Survey data was collected from 721 users of WeChat who use it in daily life. The result showed that among 11 hypotheses, 8 hypotheses were supported: H1: PC has significantly positive impact on PBM; H2: PC has significantly positive impact on PO; H3: ATSM has significantly positive impact on SDC; H4: PBM has significantly positive impact on SDC; H5: ATSM has significantly positive impact on SMF; H6: SDC has significantly positive impact on SMF; H7: PBM has significantly positive impact on SMF; H8:PO has significantly positive impact on SMF.

Keywords: Social Media Fatigue, WeChat, Privacy Boundary Management, Privacy Calculate Theory, Multiple Linear Regression

After the Huawei Incident: Technology and Canada-China Relation in a Reflection

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Even though it was being called such a "golden time", or "new era" of a revived Canada-China relation since Justin Trudeau became the Prime Minister of Canada in 2015. However, the most recent incident of the arrest of Madam Meng Wanzhou, the CFO of Chinese technology tycoon, Huawei, has become a dramatic downturn of the bilateral relation. The war of 5G, or the war of technology, therefore, should be readdressed for international relation scholars and decision makers. This research project explores the potential impacts of technology regarding Canada-China relations. The main research question is to ask whether or not the improvement of technology in both countries and the world has played a significant role in between Canada and China. The main hypothesis of this question is that technology has yet become a crucial factor of Canada China relation, even though it has played a certain role of influencing the bilateral relationship. In order to test the hypothesis, this research project is going to use a combination of technology in structural and organizational theory, and international relation theories. This project would discuss the different approach of technology theories and its discourses, mainly focuses on social construction theories, network theories, critical theories and organizational analytical theories, and try to use a constructive lens of IR theory to find out the answer of the research question and test whether the improvement of technology has been influencing the bilateral relationship of Canada and China in a significant way or not, or in what kind of scale.

State Will-permeated Embeddedness: The Institutional Logic of China's Industrial Policies for Rural E-Commerce

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This article explores how China's supposedly enabling industrial policies, which are proactively implemented from above, ultimately negatively impact two digitally innovative industries which emerge and grow from below. Scholarship on social embeddedness stresses its positive role in the entrepreneurial process of information communication technology (ICT) industries and generally deems such embeddedness a given and independent from the governmental institutions. Moreover, the extant literature on digital innovation assumes that governmental institutions are neutral, pre-existing regulators and focuses only on ICTs' transformative but one-way impact on governmental institutions. Using interviews, observations, and archival data, our study, in which rural e-commerce is selected as but exemplar industry case, shows that ICT industries are embedded within not only personal and organizational contexts, but also a politico-institutional context permeated by a strong state will to promote social welfare. We further show that the institutional logic generated by such will reconfigures the structure of this multi-layered social context, tacitly creates a conspiracy that only advances the interests of the respective parties, disrupts the natural development of entrepreneurship in both of these emergent and digitally innovative industries, and eventually inhibits their potential to accomplish their initial goal of digital social innovation. Building on social embeddedness theory, we argue that the state will and ensuing institutional logic should also be considered when analyzing industrial policies for digital social innovation in a development state.

Keywords: China, Development State, Digital Innovation, Institutional Logic, Social Embeddedness

Governance as a Complex System: A Framework for Analyzing International Conflicts and Coordination of Cyberspace Administration Policies

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Balkanization of global cyberspace governance has been discussed much. In fact, cyberspace governance covers several individual issues, and involves many kinds of governing bodies, such as governments, telecommunication operators, media companies, industry associations, etc. Among them, governments are vital bodies that engage in all issues of cyberspace governance for national public interest. Those governing bodies are autonomous agents, and the global cyberspace governance can be essentially considered as a complex system. What's more, all agents interact to shape a holistic feature and global order. In this presentation, I suggest a systemic framework, for simulating the complex system of global cyberspace governance, and moreover, as an analytical tool, for analyzing international conflicts and coordination of cyberspace administration policies.

Chinese State-business Relations in the Context of Artificial Intelligence:
A Case Study of Tencent

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Globally, the development of artificial intelligence (AI) is led by private technology companies. These operate under different political and legal regimes, which significantly influence their business operations. The purpose of this paper is to examine state-business relations in the context of AI in China, and the impact that the Chinese social-economic and political context has on the success and direction of AI development, especially with regards to its impact on society.

This paper will discuss Tencent as a research case. In details, the paper addresses the following question: how to design adequate policies for the rapidly emerging technology field of AI in China, which allow technology companies to thrive and innovate, but also effectively limit the companies' abilities to benefit at the expense of Chinese society? The paper has the potential to provide new insights on regionally-specific policy responses to rapidly emerging and continuously changing technologies in China as well as on how to design adequate policies for such technology fields driven by diversified private business sector.

Keywords: China, State-business Relations, AI, Tencent