

ShanghaiTech Faculty Search

ShanghaiTech University invites highly qualified candidates to fill multiple tenure-track/tenured faculty positions as its core team in the School of Information Science and Technology (SIST). Candidates should have exceptional academic records by international standards or demonstrate strong potential in cutting-edge research areas of information science and technology. English fluency is required and overseas academic experience is highly desired.

ShanghaiTech aims to become a world-class research university for training future scientists, entrepreneurs, and technological leaders. Located in Zhangjiang High-Tech Park in the cosmopolitan Shanghai, we shall trail-blaze a new education system in China. Besides establishing and maintaining a world-class research profile, faculty candidates must also contribute substantially to graduate and undergraduate education.

Academic Disciplines:
We welcome candidates in all cutting

edge areas of information science and technology. Our recruitment focus includes, but is not limited to: computer architecture and software, cloud and high performance computing, computational foundations, data mining and analysis, visualization, computer vision, machine learning, data sciences and statistics, IC designs, solid-state electronics, high speed and RF circuits, embedded systems, intelligent and signal processing systems, smart energy/power devices and systems, next-generation networking, control systems, robotics, sensor networks as well as inter-disciplinary areas involving information science and technology.

Compensation and Benefits:
Salary and startup funds are highly competitive, commensurate with experience and academic accomplishment. We also offer a comprehensive benefit package to employees and eligible dependents, including housing benefits. All regular faculty members will join our new

tenure-track system commensurate with international practice for tenure evaluation and promotions.

Qualifications:

- A well articulated research plan and demonstrated record/potentials;
- Ph.D. (Electrical Engineering, Computer Engineering, Computer Science, Statistics, or related field);
- A minimum relevant research experience of 4 years.

Applications:

Submit (in English, PDF) a cover letter, a 2-page research plan, a CV plus copies of 3 most significant publications, and names of three referees to: sist@shanghaitech.edu.cn by October 31st, 2014 (or until positions are filled). More information is at <http://www.shanghaitech.edu.cn>.



ShanghaiTech University SIST NEWSLETTER



School of Information Science and Technology

New Visiting Professors at SIST

During this fall semester, SIST has hosted two visiting professors.



Xin Li received the Ph.D. degree in Electrical and Computer Engineering from Carnegie Mellon University, Pittsburgh, PA in 2005, and the M.S. and B.S. degrees in Electronics Engineering from Fudan University, Shanghai, China in 2001 and 1998, respectively. He is currently an Associate Professor in the Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA. In 2005, he co-founded Xigmix Inc. to commercialize his PhD research, and served as the Chief Technical Officer until the company was acquired by Extreme DA in 2007. In 2011, Extreme DA was further acquired by Synopsis (Nasdaq: SNPS). From 2009 to 2012, he was the Assistant Director for FCRP Focus Research Center for Circuit & System Solutions (C2S2), a national consortium of 13 research universities (CMU, MIT, Stanford, Berkeley, UIUC, UMich, Columbia, UCLA, among others) chartered by the U.S. semiconductor industry and U.S. Department of Defense to work on next-generation integrated circuit design challenges. Since 2014, he has been appointed as the Assistant Director for the Center for Silicon System Implementation (CSSI), a CMU research center with 20 faculty members (two Members of National Academy of Engineering and one A. M. Turing Award Winner) working on integrated circuits and systems. His research interests include integrated circuit and signal processing. Dr. Xin Li grew up in Shanghai. He feels extremely happy to come back to Shanghai and visit ShanghaiTech with his wife Karen and son Thomas this winter.

Jingyi Yu is an Associate Professor in the Department of Computer and Information Sciences and the Department of Electrical and Computer Engineering at the University of Delaware. He received B.S. from Caltech in 2000 and Ph.D. from MIT in 2005. His research interests span a range of topics in computer vision and computer graphics, especially on computational photography and non-conventional optics and camera designs. He has published over 90 papers at highly refereed conferences and journals including over 40 papers at the premiere conferences CVPR/ICCV/ECCV. He has been granted 10 US patents on computational imaging.



NEW FACULTY PROFILE: Prof. Sören Schwertfeger



I grew up in Schwerin, in the north east of Germany. Since this was the socialist side of the two countries, I learned everything about socialism and communism and also participated in the Young Pioneers Organization. On special occasions I was wearing the triangular necktie (first blue, from age 10 red), that is also known to Chinese children. East Germany was said to be a country of “Farmers and Workers”. As such, children of two university graduates were not allowed to study, but had to become a farmer or worker. With both of my parents being graduates, my future was not very bright (which was fortunately unbeknown to me). But then, as a 10-year old boy, I regularly participated with my father in the Monday-Demonstrations of 1989 that ultimately lead to the fall of the Berlin Wall. So I very much appreciate the personal freedom that the fall of the East German dictatorship granted me. To this day my father has a big piece of the Wall on display in the living room that I witnessed him cutting out – a great memory and a powerful symbol!

Long before that, as a young student, I always knew that my job later should be “something with lots of buttons” (As I am writing this I am sitting in front of more than a hundred buttons – what a success :D). And when our chess club teacher first brought his computer to school I was immediately smitten! So I am proud to say that I became a Nerd as soon as I got my hands on my first computer (in 1991).

After finishing high school I chose the elective service instead of going to the military. Then I went to Bremen (in the west of Germany, quite close to Hamburg), to study Computer Science (which is called “Informatics” in Germany). Despite my love for Computers, I almost would have studied Physics, which I was (and still am) quite interested in – but computer science seemed more practical. I graduated with a “Diploma” – a traditional German degree with five years of classes and half a year for writing your

thesis. Since then the so-called Bologna Process has aligned the higher education qualifications in 47 European countries and so most German Diploma programs have been switched to the Bachelor and Master system.

It was during my time at the University of Bremen that I first came into contact with robots. Part of the curriculum was a two year project. Together with seven other students we developed a system capable of a) distinguishing differently shaped objects, b) having an oral dialog with a human about them, c) reason about the spatial relations and e) finally drive to the specified object. This experience really got me hooked to robotics, so I searched for places where I could continue working with robots.

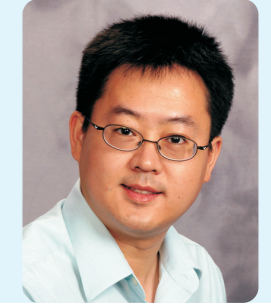
Around that time I heard about a recently opened research University that sounded very promising. It was modeled after the US education system, the teaching language was not the native one but English and the emphasis was in excellence in teaching and research. No – that is not ShanghaiTech (this was in 2005) but the “International University Bremen” (renamed to “Jacobs University” in 2007). Only about 25% of their 1,300 students are from Germany, so it is indeed a very international environment. I was accepted into the PhD program there and started working in the robotics group of Prof. Andreas Birk. At the beginning the group consisted just of Prof. Birk, another PhD student and me, but it grew to now more than a dozen researchers. In those early days we concentrated on Urban Search and Rescue (USAR) robotics and 3D mapping, especially in the context of RoboCup Rescue. We used diverse systems like from simulators, ground and aerial robots. Rescue Robotics inspired lots of ideas, algorithms and implementations, that we then also applied to different areas like space and underwater robots and industrial applications.

As a robotics researcher you have to be

familiar with a multitude of systems, from hardware and electronics, over operating system details, device drivers, networking, scheduling and databases to AI algorithms, computer vision, human-robot interfaces and even psychology and biology, just to name a few. The scenarios are also multitude – besides RoboCup Rescue I also worked on racing and security robots, on moon-crater-exploration, underwater -mapping, -cooperation and -diver assistance and also with a huge robot for unloading containers. I learned a lot by playing with all those robots, but it also took quite some time before I focused my efforts on finishing my PhD (2012: “Robotic Mapping in the Real World: Performance Evaluation and System Integration”). Through this work on performance evaluation for mobile robots I got the opportunity for an eight month guest research visit at the National Institute of Standards and Technology, NIST, in Gaithersburg, Maryland, USA. This led to invitations to support the robot assessment at exciting events like the Multi Autonomous Ground Vehicle Challenge (MAGIC 2010) in Adelaide, Australia and the DARPA Robotics Challenge Trials 2013 in Homestead, Florida, USA.

When I first learned about ShanghaiTech University I was immediately interested, because I also have a personal interest in Shanghai: My daughter Mia (11 years – see the picture) moved here with her mother four years ago. But I am still amazed by this great opportunity – ShanghaiTech turned out to be much more than any junior faculty could hope for starting a career: we can shape our research and labs, the school and the University; we are given the academic freedom to pursue our ideas; we have excellent and motivated students, colleagues and staff and the means to obtain state-of-the art hardware for our research. Soon we will also have an awesome new campus :) . My first three months here were very exciting – thanks everybody for making this such a great experience!

NEW FACULTY PROFILE: Prof. Xiliang Luo



After my dear fellow colleagues have written their articles shedding lights on various aspects, I would like to simply tell you my own experience starting from a student, then becoming an engineer, and now a faculty member in ShanghaiTech.

My childhood was spent in a beautiful and ancient countryside called “GuiRen” in Jiangsu Province. The name with the meaning of “benevolence” is allegedly due to the famous saying from Confucius: “restraining selves and following etiquettes, then the whole country goes to benevolence (Ke4 Ji3 Fu4 Li3, Tian1 Xia4 Gui1 Ren2)”. I still remember a little old stone bridge called “KeFu” very close to my primary school. The name apparently is also from this saying from Confucius. At that time, one favorite game of my buddies and myself was to catch little fish in the ponds around the rice fields. Another fun game was to “steal” small melons from the neighboring farmers in summer without being caught.

These lovely and sweet memory stopped when I was admitted to the high school, i.e. “Huaiyin Middle School”, in Huaiyin City. The life in high school was very busy and we kept having all kinds of exams every day. As a physics fan since the first year in middle school, after consulting my dad which university has the best physics department in China, I chose Peking University as my dream school. Luckily enough, with a college entrance exam score ranked among the top 10 in Jiangsu Province, I was admitted to the physics department in Peking University in 1997.

The physics education in the following four years provided me solid background in both physics and mathematics. Meanwhile, I had a lot of opportunities to work on different small projects in those advanced labs like the “State Key Lab for Artificial Microstructure and Mesoscopic Physics”, where I became intrigued by the integrated circuits and information technology while I was working on gallium nitride wide-band semiconductor for blue laser with huge potential for information storage and retrieval. During the final years in Peking University, lots of top companies came to

campus recruiting new graduates. I still remember how I was fascinated by the talk from Intel on the Pentium 4 processor. But, at that time, Intel preferred students with advanced degrees only. Otherwise, I would have joined Intel. □

Driven by the strong desire to gain better understanding about the IC and the information technology, after graduating from Peking University, I came to the states to pursue my graduate degrees in the Electrical Engineering department at the University of Minnesota. In the first semester, not only did I take all the semiconductor related courses, but also I took one course on digital signal processing. The midterm for the DSP turned out to be a nightmare with only one guy’s score above 90 while all others’ were below 60. The disappointing fact is that I was not the guy with the top score. To catch up, I spent a lot of time on the final DSP course project. The outcome was twofold: one was my final grade for this course got elevated back to A; another one was I became much interested in the digital communication and signal processing world, which prompted me to take as many relevant courses as possible in the following semesters. Thanks to the physics education from Peking University and the encouraging guidance from my former PhD advisor, Prof. Georgios B. Giannakis, I quickly matured in this field and got my PhD degree in 2006, which put a period to my student life.

After graduation, I was eager to contribute to the communication technologies by carrying out world-leading researches. Attracted by the legendary story of Qualcomm, I went to San Diego to interview for a position in its renowned research center. That was around the March of 2006, when Minneapolis was still snowy and extremely cold, while San Diego was sunny and warm like a paradise. It was a no-brainer decision when Qualcomm offered me a position to working on 4G technologies. While working in Qualcomm, fortunately, I was able to participate in one complete cycle of wireless technologies. First, we carried out a lot of fundamental researches to identify the promising solutions to overcome the foreseen

problems in the future. Next, we did extensive simulation tests and prototyping to prove the effectiveness of the solutions. Then, after effectiveness being proved, we proposed the solutions to the standardization body like 3GPP, which stands for the 3rd Generation Partnership Project. From the name, it seems 3GPP only cares about the 3rd Generation technologies. But the fact is 3GPP is where our current 4G technology is defined and it is also starting to draft 5G now. The ultimate goal was then implementing the solutions inside the chip, also called modem, with integrated circuits. Then, the next technology cycle begins. From this perspective, my dream back in my undergraduate days in Peking University, i.e. making one IC used by people all over the world, finally got fulfilled.

After so many years overseas, I began to think about the idea of coming back to China seriously. On one hand, I can stay closer to my family in China. On the other hand, although it may sound like cliché, I really feel obligated to help our own communication technologies gain the leading position. Then, I started to pay attention to various opportunities in China. Around the end of 2013, one of my friends in Qualcomm mentioned ShanghaiTech to me. After more researches on this brand-new university, I became captivated by its founding philosophy, ambitious goals, and the beautiful new campus, at least from the designs. Then, I came to interview with all the SIST faculty members in this February. After talking to all the famous researchers like Prof. Yi Ma, Prof. Shuguang Cui, Prof. Yang, Prof. Zhi, Ding, and so on, I made up my mind that this is the place I would like to join when coming back. So, after ShanghaiTech made an offer to me, I quickly accepted it. Thus, I became a professor in ShanghaiTech with the objective of establishing a world-leading research group on next-generation communication technologies.

This is my own experience I would like to share with you, which is full of changes. As Prof. Kewei Tu indicated in his article, “interest” is always the fundamental factor guiding you though all kinds of changes in your life.