Jianxin Yu

- Date of Birth: May 20, 1986
- Phone: +86 13548604880
- Nationality: China
- E-mail: yujianxin2010@163.com

RESEARCH INTERESTS

- I take a great interest in industrial design, particularly the development of Artificial Intelligence methodologies for every specific design, such as interaction design and healthcare design. I have obtained over 30 patents so far and have launched many related projects in the fields of education, Construction machinery, healthcare, etc. A book written and edited by me on the application of artificial intelligence in design will be published as well in 2021.
- *Keywords:* Artificial intelligence, Interaction design, Human-Computer Interaction, Psychology（Cognitive）

EDUCATION

Central South University **(Exam-Free Postgraduate)**: 2012-09-01 to 2014-05-24 | M.A.(Design)
- Research direction：Strategy and research of product design
- Serve customers：Sany Heavy Industry Group / Sunward Intelligent Equipment Group / Foton Motor Group

Central South University **(Project 211/985)**: 2006-09-01 to 2010-06-25 | B.A. (Industrial design)
- Research direction：Interactive design
- Honors: China National Scholarship/National Endeavor Scholarship/ School-level first-class scholarship for three times

EMPLOYMENT

- Central South University | Career Center | Marketing Department | 2014-09 to 2019-07 | Director (management)
- Central South University | Experimental Center for CCA | 2011-09 to 2019-07 | Head of R&D (Product design)
- Central South University | 2014-09 to 2019-07 | Lecturer (Career design)（Psychology direction）
- Central South University | Student Work Department | 2010-09 to 2012-07 | Managing Consultant (Study design)

PUBLICATIONS

Patent
- Seventeen patents on the application of artificial intelligence in image recognition, speech recognition, etc. Seven patents on the application of artificial intelligence in interaction design. **(See the attachment for details.)**

Monograph
- Jianxin, Y., Zhiping, J., You, H., & Xiaowen, T.(2021). Interactive Design Method and Research of career-choosing ability training products Based on artificial intelligence. Central South University Press. Hunan, China. ISBN UNSPECIFIED.
- You, H., Jianxin, Y., & Xiaowen, T.(2018). A systematic study of teaching methods on behavioral norms. Central South University Press. Hunan, China. ISBN 9787548730279.

Article
- Jianxin, Y.(2013). engineering machinery product from design in "shape" and "righteousness" [J]. Beijing, China: Design.
- Jianxin, Y.(2009). Brief Introduction to Sustainable City's Public Transportation [J]. Beijing, China: Art and Design(Theory).

Thesis
- Jianxin, Y.(2014). Design and construction machinery products from semantic communication research. M.A. thesis.
- Jianxin, Y.(2010). A system with a design for medical interaction. B.A. thesis.

RESEARCH PROJECTS

1. **University Project：Construction project of the Training Experimental Center for Career-Choosing Ability (CCA)**   **2011 to 2019**

- **Introduction：** The purpose of this project is to provide students with job guidance services through artificial intelligence equipment. From 2011 to 2019, it lasted for 9 years. As its leader, I successfully transformed the lab from a traditional classroom (1.0 era) to an artificially-intelligent one (2.0 era). In the process, I have established a trinity human-computer interaction system of **"evaluation-diagnosis-training",** Created an experimental classroom of artificial intelligence, and realized the design and development of human-computer interaction products. At the same time, more and more students can learn things based on network technology.

- **Analysis and methods:** The analysis is carried out through the intersection of multiple disciplines consisting of the following three steps:
① Establish a database through data science, use the computing power of a computer to process user data, extract effective information from the data, form "knowledge", and finally establish a user standard model **(Cloud)**.
② Realize product functional support through related applications in artificial intelligence, such as image recognition, language recognition, expert systems, etc., based on the simulation of the information process of the user standard model, and finally establish a functional standard model **(Product Port).**
③ Combine interaction design to realize the content and structure of communication between humans and machines (systems), make them cooperate (match), achieve human-computer interface (interaction) friendly, establish a human-computer interaction model **(User Port)**.

- **Results：**
Funding: Our team has received 1.6 million special funding support from the Ministry of Education of China and 1 million supporting funding support from Central South University. At the same time, we jointly built laboratories with the world's top 500 companies, brought in annual funding support of 1 million. Moreover, many enterprises offered multimedia

support Equipment and shared technology with us. We got to realize the construction concept of docking with social standards.

Team: Our R&D team consists of 50 people, including 20 teachers and 30 students (both undergraduates and graduates). Regular business pieces of training and discussions are organized involving user research, technological innovation, product function upgrades, etc.

Products: So far, 28 interactive products (systems) for teaching have been developed and put into use.

Patents: 17 patent certifications have been obtained by far, including the first Invention patent certification in the field of career guidance in China.

Sharing: Standardized experimental procedures are established to share the output with other universities (companies), and provide standardized laboratory construction plans for cooperative universities (companies) as well as long-term technical support.

2. Company Project：Industrial Design of Heavy Industry Machinery Products   2012 to 2014

- **Customers:** Sany Group (model design of pump truck parts) and Beiqi Foton Group (design of whole concrete mixing station)
- **Demand:** How does the " shape" of construction machinery products convey product information effectively?
- **Solution:** This is a research topic carried out based on the company's actual project. I served as the leader of this project. It is under the framework of semiotics and product morphological semantics. The purpose is to solve the problem through the combination of construction machinery product morphological design and semantic transmission. A set of theoretical models and practical design toolkits are used in engineering machinery product design. The established two models are dominated by product shape and semantic communication as follows:
① The product shape is dominant: shape communication model, color communication model, Human-Computer communication model.
② Semantic communication is dominant: information communication model, emotional communication model, and aesthetic communication model.
- **Contribution:** On the one hand, it echoes the company's demands, while decreasing the company's development risks, and improving users' satisfaction and considerable commercial returns. On the other hand, the provided design toolkit provides designers with design references, which helps to improve the designer's ability to solve problems in the design process.

Design Toolkits （Main frame）				
Dominant	Model	※Analysis Elements	Coding	Evaluation
Product Shape	Shape	Point, line, surface, volume	Visual	synthetic weighted
	Color	Positioning, matching, semantics, corporate standards		
	Human-computer interaction	Human-computer matching, function allocation, Human-computer interface		
Semantic Communication	Information	Shape, direction, state, understanding	Semantic	synthetic weighted
	Emotion	Clarity, adaptability, operability		
	Aesthetic	Basic layer, semantic layer, sublimation layer		

3. Concept Project：A system Based on Medical Interaction Design   2010 to 2012

- **Introduction：** I got illuminated by my personal experience, driving me to finish this design. I started my teaching career in 2010. At the very beginning, I was sorry to learn that one of my students suffered greatly from bipolar disorder (BD). When accompanying him to the hospital, I came to know how hard and complicated it is to have offline treatment. It hit me that this could be the core of my design which attached great importance to people. I am always on my way to looking for people-oriented solutions. Later on, I realized that my goal can be achieved in interaction design based on Internet technology. Therefore, I built a medical interactive system to explore the relationship between "people-product-environment".

- **Methods:**
Machine (system): A medical interactive system has been designed based on multimedia equipment. I also Created a hospital port to achieve product-friendly requirements.
People: I Created patient ports and doctor ports to provide users with a friendly experience of online medical treatment during the entire process.
Interface: Three sets of friendly interfaces for medical interaction systems have been designed based on visibility, feedback, restriction, mapping, consistency, and inspiration.

- **Results：**
It has obtained 7 patent certifications.
I won the gold medal of the 6th Dongguan Cup International Industrial Design Competition in 2010.

QUALIFICATIONS

- Ministry of Human Resources and Social Security of the People's Republic of China:2015-07 to present | Senior psychologist (The highest level)
- Center for credentialing and education,inc.: 2016-06 to 2021-06 | Board Certified Coach(BCC)-China
- Ministry of Human Resources and Social Security of the People's Republic of China:2017-07 to present | Senior Career Instructor (First-level)
- Beijing zhaopin.com company Limited.:2018-04 to present | Managing Consultant (Teaching design)
- Center for credentialing and education, inc.: 2018-09 to 2023-09 | Global Career Development Facilitator(GCDF)-China
Beisen career company limited:2018-11-06 to present | Managing Consultant (Teaching design)

Attachment:

The application of artificial intelligence in the field of interaction design	
Category	Content
Image Recognition Technology	You, H., Zhiping, J., Jianxin, Y., Tiannan, K., Senran, F., & Weiran, D.(2020).Method and system of application deportment testing based on Kinect. CN201611245992.X[P].
	Jianxin, Y., Zhiping, J., Xiaowen, T., You, H., Yunpeng, P., Yun, T., & Weiran, D. (2019).Facial expression recognition device.CN201821211447.3[P].
	Jianxin, Y., Zhiping, J., You, H., Xiaowen, T., Qi,z., Zhikang, C., Weiran, D. Xiaoliang, L., Quan, C., & Xuming, L.(2019).Image processing facility mounting box.CN201821174671.X[P].
	Zhiping, J., Jianxin, Y., You, H., Xiaowen, T., Quan, C., Qi,z., Weiran, D. Xuming, L., & Zhikang, C.(2019).Wireless charging device.CN201821175574.2.[P].
	Jianxin, Y., Zhiping, J., You, H., Xiaowen, T., Chenjia, C., Yao, G., & Weiran, D.(2019).Human position of sitting monitoring platform lamp.CN201821176208.9[P].
	Jianxin, Y., Zhiping, J., Jiachen, C., Yao, G., & Weiran, D.(2018).Human sitting posture and deportment testing method and system based on the spatial position information.CN201710736867.7[P].
	Zhiping, J., Jianxin, Y., You, H., Xiaowen, T., Yingjie, D., Shuai, L., & Yongbin, Y.(2016).Image processing method and system.CN201610549474.0[P].
Automatic Speech Recognition	Zhiping, J., Jianxin, Y., Weiran, D., Yingjie, D., & Xiao, W.(2019).Language vitality evaluation method and system.CN201611264299.7[P].
	Jianxin, Y., Zhiping, J., Xiaowen, T., You, H., Yingjie, D., Xiao, W. & Weiran, D.(2019).The long-range evaluation system of language.CN201821211446.9.[P].
	Miaolei, L., Zhiping, J., Jianxin, Y., Yujie, C., Yang, Z., & Weiran, D.(2019).Speech evaluation method and system.CN201611269661.X[P].
	Jianxin, Y., Zhiping, J., Yingjie, D., Xiao, W. & Weiran, D.(2017).Remote evaluation method for language affinity and system.CN201710146455.8[P].
	Zhiping, J., Jianxin, Y., Weiran, D., Yingjie, D., & Xiao, W.(2017).Language vitality evaluation method and system.CN201611264299.7[P].
Expert System	Zhiping, J., Jianxin, Y., Jingcheng, L., & Yunpeng, P.(2017).Work value cognition system and method.CN201710405101.0[P].
	Zhiping, J., Jianxin, Y., Jianfei, W., Yun, T., & Yunpeng, P.(2017).Career planning test method and system.CN201710398916.0[P].
	Zhiping, J., Jianxin, Y., Quan, C., Qingfang, S., & Yunpeng, P.(2017).Method and system for testing occupational personality types.CN201710398626.6[P].
	Zhiping, J., Jianxin, Y., Guifeng, S., Yunpeng, P., & Wenfang, X.(2017).Student' employment orientation evaluation method and system.CN201710398928.3[P].
	Wanyun, C., Zhiping, J., Jianxin, Y., Linan, R., Mingyang, W., & Weiran, D.(2017).Method and system for testing job hunting readiness degree.CN201611245908.4[P].

The application of artificial intelligence in the field of healthcare design	
Category	Content
Interaction System	Jianxin, Y.(2011).Medical interaction system(Home terminal B).CN201030599373.8[P].
	Jianxin, Y.(2011).Medical interaction system(Health care terminals A).CN201030599366.8[P].
	Jianxin, Y.(2011).Medical interaction system(The navigation system B).CN201030599354.5[P].
	Jianxin, Y.(2011).Medical interaction system(Home terminal C).CN201030599371.9[P].
	Jianxin, Y.(2011).Medical interaction system(Health care terminals C).CN201030599381.2[P].
	Jianxin,Y.(2011).Medical interaction system(Induction terminal B).CN201030599388.4[P].
	Jianxin,Y.(2011).Medical interaction system(Home terminal A).CN201030599396.9 [P].