

Education

July 2017--- Now, **Singapore Management University**, Singapore
Research Engineer, LARC Lab co-founded by Carnegie Mellon University and Singapore Management University

- Research in LARC Lab (Living Analytics Research Centre) with Professor Steven Hoi.
- Research in Deep Learning area.
- In charge of FoodAI research project (<http://foodai.org>) and medical images processing.

September 2014 --- June 2017, **South China University of Technology**, Guangzhou, Guangdong, China

Masters of Software Engineering, Computer Vision & Visual Programming Emphasis

- Ranked 4th (52 students).

Fall 2016, **Pittsburg State University**, Pittsburg, Kansas, USA
Visiting student, **Computer Technology Emphasis**

- Built a remote-controlled car.
- Built a mp3 player using hcs12 dragon board, programmed with assembly language of hcs12 microcontroller.
- Learned project management knowledge, gained computer security experience.
- All selected classes (7 classes) are As, GPA 4.0.

September 2010 --- June 2014, **Hunan Agricultural University**, Changsha, Hunan, China

Bachelors of Information Engineering

- Ranked 2nd (72 students).

Research & Projects

December 2017 to Now
Medical image processing

- Medical image processing on chest diseases.
- Solving imbalanced data and multi-label problems.
- Cost sensitive Learning.

July 2017 to Now

Food Image Fine-grained Classification

- Researching on Fine-grained classification and semi-supervised learning.
- In charge of FoodAI research project (<http://foodai.org>) and raised the original top1 / top5 accuracy of food classification from 70% / 90% to 78% / 94%.

May 2017 to December 2017

Online Learning and Tensor Decomposition

- Researched on Online Learning and Tensor Decomposition.
- Published a paper named “Online Learning and Tensor Decomposition” on the 10th International Conference on Advanced Computational Intelligence 2018.

January 2017 to May 2017

Image Matting algorithm research

- Came up with ideas of algorithms to solve natural image matting problem efficiently.
- Published a paper named “A Fast Image Matting Method based on Interval-line Sampling” on Proceedings of the 2017 IEEE International Conference on Computational Science and Engineering(ICSE'17)

December 2015 to May 2016

Visual Programming Compiler

- Compiler architecture, encapsulation programming interfaces.
- Compile the graphic icon into actual machine code to drive robots.
- C++ architecture, good transfer ability among different platforms (eg. Windows, Linux, Mac OS or Android).
- Implemented the backend of the platform, over 25000 C++ codes have been written by me.
- In volume production and market now.
- On my GitHub <https://github.com/billhhh/whEST>.
- Two patents were gotten: (1) “A Graphical Programming Multithreading Synchronization Method.” 1 June 2017. Patent (201710405733.7). (2) “A Visual Programming Control and Store System.” 30 November 2016. Patent (201611092887.7).

November 2015

“Know Video” System

- Implemented with JS+PHP in 24 hours, a chrome add-in, fancy media previews will show up whenever users type the keywords in the search engine (multiple search engine supported).
- Came up with a marvelous business model, a considerably great UGC platform by which users can upload their video clips.
- “Hack Shanghai Global Hackathon” Contest ranked 3rd.

December 2014 to May 2015

Shoes shopping guide-system

- System architecture and coding, including database, web-crawler design and coding.
- Implemented and tested on Java.
- “Ali Baichuan” Hachathon Programming Contest Ranked 3rd.

December 2014 to January 2015

Students homework checking system

- Came up with String comparison Algorithms.
- System architecture and coding.
- Used C++ (including Qt framework), over 99% checking accuracy.

June 2014 to September 2014

Masked-Men Detection Computer Vision research

- Created a method to find out masked-men on real time videos.
- Used skin color feature and gradients feature combine with statistics methods.
- Two patents were gotten: (1) "Dual Mode Video Masked-men Detection Based on Statistical Characteristics." 20 December 2015. Patent (201510971527.3). (2) "Masked-men Detection Based on Color Features." 7 July 2015. Patent (201510451280.2).
- One Software copyright were gotten: "Intelligent Masked-Men Detection system." 26 September 2014. Software copyright (2015SR035707).

January 2014 to March 2014

Independent Implementation of ACM Online Judge

- Automatically judged ACMers' submissions, this system can be used in competitions.
- Used C++ (Compile core) and Java (Web, Struts + Hibernate).
- One Software copyright were gotten: "ACM/ICPC Online Judge." 26 March 2014. Software copyright (2015SR035709).

March 2013 to April 2013

Independent Implementation of Digital clock based on FPGA

- Programmed based on VHDL of FPGA (Field-Programmable Gate Array).
- Published a paper named "Design of digital clock based on FPGA (In Chinese)" on Electronic Design and Engineering. 2014.

Publications

- Congbo Ma, Xiaowei Yang and Hu Wang. Randomized Online CP Decomposition (Newly accepted by ICACI 2018 in January 2018).
- Hu Wang, Zhongming Yang and Congbo Ma. A Fast Image Matting Method based on Interval-line Sampling. In: Proceedings of the 2017 IEEE International Conference on Computational Science and Engineering(ICSE'17), Guangzhou, China, July 21-22, 2017.
- Hu Wang, Jun Ren. Design of digital clock based on FPGA (In Chinese). Electronic Design and Engineering. 2014, (04):127-129.

Patents & Copyrights

- "A Graphical Programming Multithreading Synchronization Method." 1 June 2017. Patent (201710405733.7).
- "A Visual Programming Control and Store System." 30 November 2016. Patent (201611092887.7).

- “Dual Mode Video Masked-men Detection Based on Statistical Characteristics.” 20 December 2015. Patent (201510971527.3).
- “Masked-men Detection Based on Color Features.” 7 July 2015. Patent (201510451280.2).
- “Intelligent Masked-Men Detection system.” 26 September 2014. Software copyright (2015SR035707).
- “ACM/ICPC Online Judge.” 26 March 2014. Software copyright (2015SR035709).

Internship

June 2016 to August 2016

Senior Java-Programmer internship of Ant Financial Services Group affiliate with Alibaba Corporation, Hangzhou, China

- Built web-crawler software, Java programming.
- Became familiarized with Alipay SOFA architecture.

August 2015 to May 2016

Programmer internship of Dr. Luck Corporation

Awards & Honors

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| ▪ South China University of Technology | Excellent Students Awards | 2016 |
| ▪ IBM Master the Mainframe Global Individual Contest | Third Prize | 2015 |
| ▪ Hack Shanghai Global Hackathon | Ranked Third | 2015 |
| ▪ Microsoft campus Hackathon Contest | Excellence Award | 2015 |
| ▪ South China University of Technology Samsung Scholarship | | 2015 |
| ▪ “Ali Baichuan” Hackathon Programming Contest | Ranked Third | 2015 |
| ▪ Tencent Internet innovation and startup contest | National top 100 | 2015 |
| ▪ “Star Cup” English Speech Contest | Second Prize | 2015 |
| ▪ SCUT Graduate Student Debate Contest | Ranked Second | 2014 |
| ▪ Hunan Agricultural University ACM Programming Contest | First Prize | 2013 |
| ▪ The Eleventh “Truth Seeking Cup” Programming contest | First Prize | 2012 |
| ▪ The Praise of “China Cup” calligraphy contest | Third Prize | 2012 |
| ▪ National Electronic professionals’ skills contest | Excellence Award | 2012 |
| ▪ Hunan Agricultural University English Speech Contest | Third Prize | 2012 |
| ▪ Hunan Agricultural University ACM Programming Contest | First Prize | 2012 |
| ▪ The Praise of “China Cup” calligraphy contest | First Prize | 2010 |

Activities

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| ▪ Microsoft Research Asia | Campus Hackathon Conference | 2015 |
| ▪ Microsoft Corporation | Microsoft Summer Camp | 2015 |
| ▪ SCUT Microsoft Technology Club | Vice-president | 2015 |
| ▪ Guangzhou Import/Export Commodity Fair | Interpreter | 2015 |
| ▪ Oral English class | Teaching Assistant | 2015 |
| ▪ Algorithm & C++ class | Teaching Assistant | 2015 |
| ▪ Qide International Education | Interpreter | 2013 |
| ▪ Aoji International Education | Interpreter | 2013 |

- ACM Programming Innovation Lab Team Leader 2011

References

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