

ACM Class • Zhiyuan College • Shanghai Jiao Tong University
greatwall1995@sjtu.edu.cn • <http://chwan.info>

EDUCATION

- **Shanghai Jiao Tong University** Shanghai, China
Bachelor of Engineering in Computer Science Sep. 2014 – present
 - Member of ACM Class, an elite CS program for top 5% talented students
 - Cumulative GPA in Major: 90.1/100

RESEARCH EXPERIENCE

- **Knowledge Computing Group, Microsoft Research Asia** Aug. 2017 – present
Research Intern
Adviser: Dr. Chin-Yew Lin
Target: use personal information data from LinkedIn to solve a problem as essential as possible
 - Investigated what is the most important problem related to the LinkedIn data with regard to different groups of people, and decided to build a life coaching system.
 - Designed the function and the framework of the system, which was inspired by the GROW model.
 - Extracted primary information from raw education data which is described in natural language. More than 80% data was fully analyzed.
 - Proposed and implemented a model based on Skip-Gram and autoencoder for projecting every education stage of a person into a vector space. The results were convincing.
- **Center for Brain-like Computing and Machine Intelligence, Shanghai Jiao Tong University** Jun. 2016 – present
Research Assistant
Adviser: Dr. Liqing Zhang
Target: apply machine learning methods to visualizing features of EEG signals (brain waves)
 - Learned techniques of signal processing, and studied advanced methods for dealing with EEG signals.
 - Applied several feature visualization methods in computer vision field to EEG data and analyzed their bottlenecks.
 - Improved one of the above methods and implemented it using PyTorch. The method derives more diverse and more reasonable result than traditional methods.
- **Department of Computer Science, Cornell University** Jun. 2017 – Jul. 2017
Visiting Student
Adviser: Dr. Adrian Sampson
Target: improve DECAF, a type-based approach to controlling quality in approximate programs
 - Learned materials about approximate programming.
 - Raised an idea about parameterized type and suggestions concerning how to avoid introducing bugs.
 - Proposed several ways to realizing simplified versions of the parameterized type.

MANUSCRIPT

- [1] Wan, C., and Zhang, L. (Under Review). Characterizing EEG Dynamic Features for Motor Imagery Classification.

HIGHLIGHTED COURSE PROJECTS

- **SimpleDB** May. 2017 – Jun. 2017
A MySQL-like database. Database System, CS392, 98/100.
 - Implemented the simulator of buffer pool and heap page in Java.
 - Realized some basic functions of MySQL.
 - Applied B+ tree to deal with queries efficiently.

- **Tone Classifier** Dec. 2016 – Jan. 2017
A deep learning model for tone classification. Deep Learning, MS318, 93/100.
 - Designed denoising methods and feature extraction algorithms, and implemented these methods in Python.
 - Implemented a succinct fully connected neural network with MXNet, and achieved 97% validation accuracy while the baseline was 88%.
- **BadKid** Nov. 2016 – Jan. 2017
A virus which infects ELF files. Operating System, MS110, 98/100.
 - Explored the structure of ELF files.
 - Collaborated with two peers, designing the mechanism for attacking ELF files.
- **MIPS CPU** Sep. 2016
A five-stage pipeline for (almost) all MIPS integer operations. Computer Architecture, MS108, 98/100.
 - Implemented pipelined MIPS with forwarding optimization in Verilog HDL.
- **Mugic** Feb. 2016 – May. 2016
A highly functional compiler of Mugic, a language mixing C and JAVA. Compiler, MS208, 95/100.
 - Designed and implemented a parser, an abstract syntax tree and IR language in Java.
 - Designed and implemented a variety of optimizations with regard to register allocation.
- **iGit** Apr. 2015 – Jun. 2015
A toy version control system like Git. Data Structure, MS105, 99/100.
 - Collaborated with a peer, designing the framework of iGit, which realizes all basic functions of Git except 'branch' and 'merge', and implementing the project in C++.

SELECTED ACADEMIC PRESENTATIONS

- A tutorial talk in KC Seminar 2017: **Introduction to Causal Inference** Nov. 2017
- Expert student talk on Game Theory Course: **Bimatrix with Fixed Flowing Number** Apr. 2017
- A 30-minute presentation in the computer science seminar: **Introduction to Wavelet** Oct. 2016

HONORS AND AWARDS

- **Honorable Mention** in The Mathematical Contest in Modeling 2017
- Academic Excellence Scholarship of Shanghai Jiao Tong University (B-level, **top 10%**) 2015, 2017
- **Gold Medal** in The 2015 ACM-ICPC China Shanghai Metropolitan Programming Contest (6/193) 2015
- **Honorable Mention** in The 2014 ACM-ICPC Asia Bangkok Regional Contest (7/102) 2014
- **First Prize** in The 18th National Olympiad in Informatics in Provinces (8/891) 2012

TEACHING EXPERIENCE

- **External Teacher at Shanghai Kongjiang High School** Fall 2016
Design and Analysis of Algorithms
 - Taught algorithms including divide and conquer, graph theory, dynamic programming, and number theory.
 - Introduced practical data structures such as stack, queue, merge-find set, heap, segment tree, hash table and trie.
 - About one-third students in my class won first prize in National Olympiad in Informatics in Provinces 2016.
- **Teaching Assistant at Shanghai Jiao Tong University** Fall 2015
CS122: Introduction to Programming
 - Prepared the problems of tests and assignments.
 - Conducted one-on-one meeting to help students with forming good programming style habits.

SKILLS

- **Programming Languages:** C++, Java, Python, Matlab, MySQL, HTML, Javascript, jQuery, Verilog HDL
- **Tool Kits:** NumPy, PyTorch, Tensorflow, MXNet, OpenCV, ANTLR, BCILab
- **Others:** Git, L^AT_EX, Markdown, Jupyter Notebook, Robot Operating System (ROS), Socket, Morse Code
- **Relevant Courses:** Introduction to Life Science, Machine Learning, Deep Learning Technology and Its Applications