Zanhua Huang

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EDUCATION:

- **Rice University,** Houston, TX.   GPA: 4.00/4.00   Expected Dec 2020
  Master of Computer Science
- **University of Michigan,** Ann Arbor, MI.   GPA: 3.81/4.00   May 2019
  Bachelor of Science in Engineering, Computer Science
- **Shanghai Jiao Tong University**, Shanghai, China   GPA: 3.50/4.00   Aug 2019
  Bachelor of Science in Engineering, Electronic and Computer Engineering

PROJECTS:

Database System Implementation   Rice University   Feb 2020 - May 2020
- This is a course project and I built a database system from the ground up using c++. The system includes database management system architecture, query processing and simple optimization.

Chatbot For Department of Design System   Team Leader   Giti Tire/Shanghai Jiao Tong University   Aug 2019
- Implemented a chat-bot that automatically answers engineers' technical questions based on provided FAQs with an accuracy higher than 98% (NLP). The chat-bot runs on a self-implemented web server (using Flask + Sqlite3).
- Used agile methodology to ensure the requirements from the company are satisfied.
- Capstone Design project at the Shanghai Jiao Tong University.

Multi-thread Library Implementation   Team Leader   University of Michigan   Sep 2018
- Implemented multi-threads library, a memory space manager and a file system based on provided infrastructure in order to improve skills in multi-thread programming and improve understanding of multi-thread.

RESEARCH:

Reservation Guarantees for Distributed Servers   Rice University   Jun 2020 - present
- This research is based on *pTrans*. We are trying to find ways to aggregate servers into one or more super nodes so that 1) parallelization among servers can be done 2) and/or to reduce communications between servers.

Inexact Bit Quantization For Neural Networks   Rice University   Mar 2020 - May 2020
- Proposed a novel quantization method on pre-trained neural networks which decides the bit-allocation to each network parameter based on its influence. A compression ratio of 3x ~ 9x (no pruning) is achieved, without loss of accuracy.
- The influence is calculated based on partial derivatives.
- Expected to perform better if combined with the state of the art method (pruning + clustering + Huffman coding)

Cognitive Disorder Prediction   Research Assistant   University of Florida   May 2018 - July 2018
- Increased the accuracy of predicting cognitive disorder from 85% to 86% using SVD/PCA/CUR analysis and SVM.
- Used metabolic data and genetic data to predict human diseases.

TEACHING ASSISTANTSHIP:

Artificial Intelligence   Rice University   Sep 2020 - present
- Hold office hours, grade assignments and deliver recitation classes to students enrolled in Artificial Intelligence. Topics include search algorithms, game trees, MDP, CSP, bayesian network and ML topics.

***Applied Machine Learning in Python*, at Coursera**   University of Michigan   May 2018 - May 2019
- Answered students' questions in the course *Applied Machine Learning in Python*. Questions include topics in regressions, kernelized support vector machine, random forests, confusion matrix, data leakage and etc.

Undergraduate Honors Mathematics   Shanghai Jiao Tong University, China   Sep 2016 - Aug 2017
- Held office hours, graded assignments, delivered lectures (weekly) to facilitate test reviews for students enrolled in Honors Mathematics and to build self communication skills. Topics include calculus and linear algebra.

SKILLS:

- **Language:** native Chinese, working level of English, conversational Japanese.
- **Computer Language:** Python, C++.
- **Computer Coursework**: Operating System (EECS 482, UMich), Machine Learning (EECS 445 UMich), High Performance Computing (COMP 526, Rice), Database Management and Implementation (COMP 530, Rice), Web Development (EECS 485, Umich), Game Design (EECS 492, UMich).

HONORS:

- Dean's List & University Honors (at the University of Michigan and Shanghai Jiao Tong University).
- James B. Angell Scholar (at the University of Michigan).
- MCM/ICM Honorable Mention.
- Chinese Mathematics Competitions (CMC), Third Prize.