Department of Computer Science
The University of Texas at Austin
(+1) 737-333-1729
jhliao@utexas.edu
GitLab: liaojh1998
GitHub: liaojh1998

Jie Hao Liao

Education

Aug 2016–Expected May 2020 — **University of Texas at Austin**,
Computer Science, Bachelor of Science.
GPA – 3.9460/4

Skills

Programming Languages	Python (Proficient), C/C++ (Proficient), Java (Familiar), SQL (Familiar)
Frameworks	Numpy, Pandas, PyTorch, Tensorflow
WebDev	HTML/CSS, Node.js, React.js
Utilities	LaTeX, Docker, vim, Git, Jupyter Notebook
Languages	English (Fluent), Mandarin (Fluent)

Work Experience

May 2019–Aug 2019 — **Performance and Capacity Engineer, Intern**, *Facebook, Inc.*, Menlo Park, CA.
- Implemented the automatic profile refresh pipeline in Python for a profile-guided optimization, AutoFDO, for all clang-compiled binaries at Facebook.
- Collaborated with multiple engineers to incorporate the optimization during compilation to reduce the CPU utilization at scale of all binaries by 1%.
- Implemented the continuous and on-demand profiling in C++ for Facebook application's memory allocator, jemalloc, and its user interface in React.js to assist researchers in understanding of memory fragmentation with respect to time.

June 2018–Aug 2018 — **Software Development Intern**, *Quantlab Financial, LLC.*, Houston, TX.
- Created anomaly detection library in Python to identify aberrant performance in a high-frequency trading platform.
- Implemented trend analysis strategies on market latencies in the detection algorithm and integrated it to automated alert system.
- Created and automated an alert system that correctly detected failing production server (1 out of 6 in the system).
- Reduced loss by identifying insidious production misconfiguration left undiscovered for 6 months that turned off the ability to fire on favorable quotes.
- Implemented continuous profiling on latency packet captures on market orders in Lua.

Projects

Jan 2019–June 2019 — **Vote Wisely**, *GitLab Link*, Software Engineering (CS 373) with Dr. Glenn Downing.
- Managed the development of and engineered thewisevote.com, a web application which provides citizens with unbiased information on recent controversial issues.
- Implemented the user interface in React, backend in JavaScript and MySQL, and set up the GitLab continuous deployment as a full-stack engineer.

Apr 2019–June 2019 — **Toxicity Classification**, *GitHub Link*, Natural Language Processing (CS 378) with Dr. Greg Durrett.
- Implemented and fine-tuned BERT and LSTM neural network models in PyTorch to classify the toxicity of online conversations with 0.9299 AUC-ROC score for Kaggle's Jigsaw Unintended Bias in Toxicity Classification competition.

Academic Service

Sep 2019–Present **Undergraduate Teaching Assistant**, *The University of Texas at Austin*, Austin, TX.
Algorithms and Complexity (CS 331) with Dr. Fares Fraij.
- Proctored exams. Graded student exams and homework.
- Lead discussion sections and held office hours.

Aug 2015–June 2016 **Research Volunteer**, *Texas Heart Institute*, Houston, TX.
Supervised under Dr. Jingxiong Wang.
- Analyzed biophysical functions, detection, and regulation of Small Ubiquitin Modifier proteins in Kv7 channels.

Extra Curriculars

Dec 2015–June 2018 **Competitive Programming**, 10 Hours / Week.
- Implemented and optimized over 30 competitive programming algorithms and data structures snippets (GitHub Link) used in over 300 problems (GitHub Link).
- Placed 5th on team UT Blue in the Southern Central USA Regional ICPC-ACM Contest in November 2017 (Link).
- Competed and ranked Platinum on USA Computing Olympiad.
- Competed and ranked 5 out of 7 stars on CodeChef competitive programming platform.

Jan 2019–Dec 2019 **Society of Asian Scientists and Engineers**, *Member*, 10 Hours / Week.
- Collaborated in and performed Korean pop and urban group dances for dance competitions and university social events.

Relevant Courses

Computer Science: Multicore Operating Systems, F1/10 Autonomous Driving, Neural Networks, Natural Language Processing, Advanced Data Mining, Software Engineering, Operating Systems, Virtualization, Big Data Programming, Computer Architecture, Algorithms and Complexity, Intro to Data Mining, Data Structures, Intro to Programming

Mathematics: Theory of Interest, Financial Math for Actuaries, Differential Equations, Number Theory, Numerical Analysis, Discrete Math, Statistics and Probability, Linear Algebra