Peter Zhao

pjz1@williams.edu | 703-889-0678 | Github
2810 Morada Ct, Vienna, VA 22180

Education

Williams College — Williamstown, MA
B.A. Computer Science, B.A. Mathematics. GPA: 3.77/4.00 — *Sept 2017 - June 2021*
Relevant Coursework: Algorithm Analysis, Computer Architecture, Machine Learning, Storage Systems, Programming Languages, Probability, Graph Theory, Combinatorial Optimization, Abstract Algebra, Networks and Dynamics, Algorithmic Game Theory

Study Abroad: Acquincum Institute for Technology in Budapest - Spring 2021

Thomas Jefferson High School for Science and Technology — Alexandria, VA
Advanced Diploma. GPA: 4.23 — *Aug 2013 - May 2017*

Harvard Business School, HBX — Cambridge, MA
Credentials of Readiness: Business Analytics, Economics for Managers, Financial Accounting — *June 2018 - Aug 2018*

Technical Skills

- **Languages**: Python, C, C++, Java, JavaScript/TypeScript, Clojure, Go, R, SQL **Technologies**: Unix, GitHub, LaTeX, AWS, Azure
- **Libraries**: Numpy, NetworkX, Scikit-Learn, SciPy, Pandas, Django, React, Tensorflow, Keras, PyTorch

Experience

De-Generate — Remote
Blockchain Architect — *Oct 2020 - Present*
- Engineered Solidity smart contracts on the Ethereum blockchain for a decentralized finance roboadvisor for crypto investments
- Researched investment protocols and constructed strategy portfolios via staking, liquidity provision, and yield farming
- Designed investment API and schemas, deploying a MySQL database in AWS. Built out testing framework for checking correctness and optimizing transactions fees

J.P. Morgan — Chicago, IL
Software Engineering Intern — *June 2020 - Aug 2020*
- Developed social media tools for local nonprofit to boost youth engagement via self-learning social media bots that automatically determined content and sentiment. Increased engagement and click rate by 80% for target group
- Constructed SQLite database and API integration for storage of non-profit stories and front-end information retrieval

Williams College Computer Science — Williamstown, MA
Research Intern, Professor Daniel Barowy — *June 2019 - Dec 2019*
- **SWELL**: Researched a self-repairing parser combinator library using TypeScript that can detect syntactic parsing errors, determine a possible fix using minimum edit distance, and return an easy-to-read error message based on error stream
- Created looping structures in the SWELL programming language and constructed locks on direct manipulation if behavior was ambiguous. Implemented a lesson constructor to make lesson development more user-friendly

Williams College Psychology — Williamstown, MA
Research Assistant, Professor Safa Zaki — *Jan 2019 - Dec 2019*
- Implemented modular experiment development procedure by implementing the jsPsych library and organized workflow using GitHub

Projects

- **GoTED**: A Go implementation of the Zhang-Shasha Algorithm, which computes the edit distance between two trees
- **C++uckoo**: A C++ implementation of a Cuckoo Filter using a variety of hashing techniques
- **Firestone**: A Heathstone clone developed in Clojure to focus on functional programming software design paradigms
- **Community Detection**: Implementation and testing of the Girvan-Newman Algorithm in Python for detecting communities in networks
- **Learned Filters**: A Pytorch implmentation of a Learned Bloom filter and a Sandwiched Learned Bloom filter using a deep neural network

Volunteer Experience

Microsoft TEALS
Volunteer — *July 2020 - Jan 2021*
- Supported teachers in teaching and developing a fundamental computer science curriculum for high school students to increase access to a tech-focused education

Additional Experience & Achievements

- SC20 Student Cluster Competition
- **Teaching Assistant** for Theory of Computation (Spring '21), Algorithm Analysis (Fall '19, Fall '20)
- **Math Teaching Assistant** for Linear Algebra: Fall 2018
- **Treasurer** of All Campus Entertainment at Williams College: 2019-2021
- **President** of the Chinese American Student Association: 2018-2019
- Placed **4th** at Google Tech Challenge: Cambridge 2018
- Placed **1st** in Creative Category at HackDartmouth 2017
- Jack Kent Cooke Scholar and Questbridge Scholar