Yicheng Xia

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EDUCATION

University of Pennsylvania   Philadelphia, PA
*M.S. in Computer and Information Science, **M.S.** in Scientific Computing* (GPA: 3.73/4.00)   *Aug 2021 – Present*

Suzhou University of Science and Technology   Suzhou, China
***B.Eng.** in Built Environment and Energy Utilization Engineering, **B.A.** in English*   *Sep 2017 – Jun 2021*
(GPA: 91.31/100, Ranking: 1/68, Outstanding Graduate & Merit Student)

SKILLS

Languages: Java, Python, C/C++, MATLAB, SQL, HTML, JavaScript, CSS, LaTeX, Assembly, Lisp
Tools: Linux, AWS, Apache Maven/Hadoop/Spark, Docker, Django, MySQL, NoSQL, React, Node.js, MongoDB, OpenGL

EXPERIENCE

Teaching Assistant   Philadelphia, PA
University of Pennsylvania, Department of Computer and Information Science   *May 2022 – Present*
- Hosted weekly office hours and graded homework for 30+ students in CIS 551: Computer and Network Security

Software Engineer Intern   New York, NY
Witness to Mass Incarceration Inc., E-Commerce Team   *May 2022 – Aug 2022*
- Designed and built an e-commerce cloud system with interactive APIs and frontend interfaces on Figma
- Used Django and PostgreSQL for backend and imported 1K+ sellers' information to be searchable
- Deployed it on Heroku and supported admins, sellers, and customers with separated functions and mobile views

Research Assistant   Suzhou, China
Suzhou University of Science and Technology, Prof. Junqi Wang's Team   *May 2020 – May 2021*
- Built a raspberry Pi system and saved 49.15% fan energy in full speed with designed image processing algorithms
- Patent: *An Intelligent Demand-Oriented Ventilation Control System Based on Occupant Detection.* CN213365297U

PROJECTS

Mini Minecraft 🔗 *C++, OpenGL, Qt Creator*   *Oct 2022 – Present*
- Created an interactive 3D world exploration and alteration program like Minecraft with Qt Creator
- Generated terrain and caves with noise functions, created texture animation and player physics, and implemented multithreaded VBO workers to construct blocks with shared memory and higher speed when expanding the world

Web-Enabled Database Application 🔗 *MySQL, AWS EC2/RDS, React, Node.js*   *Oct 2022 – Present*
- Built a restaurant-review website with Yelp datasets of 1M+ entries, provided recommendations and searches based on multiple filters, implemented login interface supporting social network accounts, and deployed it on AWS EC2

Search Engine 🔗 *Java, AWS EC2/S3/RDS, Berkeley DB, HikariCP, Apache Hadoop, Docker*   *Apr 2022 – May 2022*
- Deployed a cluster of distributed EC2 servers with 3 crawlers processing 150K web documents within 12 hours
- Set up S3 and RDS databases, ran the indexer to get 23M term frequencies, and calculated PageRank in bulk
- Sorted all pages by indexer and PageRank scores every time it got a search query, and retrieved contents in seconds

Spark Java like HTTP Server 🔗 *Java, HTML, Apache Maven/Log4j*   *Feb 2022 – Mar 2022*
- Built a multithreaded HTTP server with a thread-safe handler responding 1K+ simultaneous requests concurrently
- Handled various routes from requests with pattern matching for parsing and cookies and sessions for identification

Multidimensional Analysis of the Effects of Climate Change 🔗 *Jupyter, pandas, ML libs*   *Nov 2021 – Dec 2021*
- Analyzed relations between the global temperature and other data (accuracy >90% by random forest) with Scikit-Learn and used ARIMA model to predict and visualize global temperature changes in the next 20 years
- Used AFINN and NLTK to do sentiment analysis with labeled Twitter posts and visualize the word frequency

HONORS & AWARDS (SELECTED)

Meritorious Winner of 2020 Mathematical Contest in Modeling	*Top 8% all over the globe*
Mao Yisheng Science and Technology Award (Railway Education Star of Outlook Award)	*Only 2 among 3 colleges*
China National Scholarship	*Only 5 among the college with about 2K students*
Special Scholarship in year 2017-2018, 2018-2019, and 2019-2020	*Top 1 in major comprehensive ranking for 4 years*