Zehao (Zack) Li

(678) 862-5120 | bietabigbit@gmail.com | github.com/zuchuandatou | linkedin.com/in/zehaozack/ | New York

EDUCATION

New York University September 2023 - May 2025
Master of Science in Computer Engineering New York City, NY
Relevant Courses: Computer Architecture, Database, Machine Learning, Database, Internet Protocol

North Carolina State University August 2019 - December 2022
Bachelor of Science in Computer Science GPA: 3.7/4.0 Raleigh, NC
Awards: Dean's List (five semesters), Research Experience for Undergraduate Award (two semesters)
Relevant Courses: Data Structure, OS, Software Development, Computer Security, Data Mining, NLP

EXPERIENCE

Research Assistant, *High Speed Networking Lab at NYU, New York, NY* May 2024 - Present

- Collaborated with lab members on enhancing Multi-path **QUIC**, congestion control and FEC strategies with **Mininet**
- Executed comprehensive network performance evaluations of various FEC schemes, including XOR, Reed-Solomon (RS), Delay Sensitive, Adaptive, and Deep Learning based Adaptive FEC approaches
- Created scripts for collection and analysis of server/client logs, producing insightful plots/metrics and compile reports into PDF

Software Developer Intern, *HireBeat Inc., Jersey City, NJ* July 2023 - August 2023

- Developed new features for a job board website that provides application tracking platform for small business and utilized **Django** and **PostgreSQL** to build the backend, improving user management and application processes
- Incorporated Chart.js with ReactJS and Material-UI to enhance the analytics dashboard with visualization of candidate statistics
- Integrated Stripe API and webhook into payment infrastructure, enabling subscription management and coupon redemption
- Elevated website responsiveness with **Celery** and **Redis** for distributed task processing, and message brokerage

Software Developer Intern, *MKLD Enterprises Inc., Norcross, GA* May 2023 - July 2023

- Developed a postcard generator web app, enabling users to personalize quotes on postcards and obtain downloadable images.
- Built a single-page application utilizing TypeScript and NodeJS, constructed a robust backend infrastructure via **AWS**
- Established and managed a streamlined **CI/CD** pipeline on AWS Amplify with **GitHub Actions**, incorporating updates from GitHub, expediting deployments and upholding uninterrupted integration

Research Assistant, *North Carolina State University, Raleigh, NC* February 2022 - December 2022

- Examined the correlation between 150+ students' code inefficiency patterns and their performance in computer science courses
- Engineered a data collection and preprocessing pipeline using **Bash scripts** and **Python** unittest for performance evaluation, ensuring the anonymization and integrity of student coursework data for analysis
- Utilized **regression analysis** and **decision tree models** to identify and evaluate code inefficiency patterns, quantifying their impact on student performance and uncovering actionable insights with **Pandas** and **Scikit-Learn**

PROJECTS

Retrieval-Augmented Generation (RAG) Searching Web Application

- Led a team of 5 in creating a **RAG** system for legal inquiries, integrating the pre-trained Mistral 7B model with **LangChain** for similarity search of Q/A pairs and documents, and implemented a document uploading feature to continually enhance the database
- Collaborate closely with stakeholders to develop a web service using **Python Flask**, **ReactJS**, Docker, and Google Cloud Platform (Cloud Run, Cloud Storage, API Gateway, Vertex AI), achieving a comprehensive development process
- Optimized search performance and system efficiency by integrating Facebook AI Similarity Search (FAISS) and VLLM, reducing document searching time by 80% while improving the precision of contextually relevant answers

iTurst2 - Software Engineering Project

- Led a team of 5 members to design and implement new features for an Electronic Health Record system (EHR) Web App
- Developed a backend infrastructure using **SpringBoot**, **MyBatis** and **MySQL** database
- Crafted frontend designs employing HTML/CSS and enhanced interactivity with **AngularJS**
- Implemented CI/CD processes using **Jenkins** to automate testing and enhance deployment workflow
- Applied **Agile Development** methodology in this 3-month project, including designing, implementation, and testing

Skin Cancer Detection Web Application

- Built a skin cancer detection tool with Python **Flask,** enabling users to attain outcomes by submitting images of their skin
- Used Keras to build a **CNN** to classify seven types of skin cancers from HAM10000 Dataset, achieving a 97% accuracy
- Deployed the app on **Kubernetes** with Horizontal Pod Autoscaler and Load Balancer, which reduce response time by 40%, verified by Siege for load testing
- Analyzed testing results including response times, availability, memory/GPU usage, using **Tableau** to optimize resource allocation

SKILLS

- **Programming Languages:** Java, Python 3, C, Go, HTML/CSS, Java/TypeScript, SQL, Bash
- **Frameworks:** Spring (SpringBoot, MyBatis/Hibernate, Maven, Jenkins, Tomcat, JUnit), Flask, Django, Keras, Scikit-Learn, Pandas, Express.js, ReactJS
- **Tools:** AWS, GCP, Linux, GitHub, Postman, Figma, Docker, MySQL, PostgreSQL, Nginx, REST API, Wireshark, GraphQL