

Bingsong Zeng

bingsong@usc.edu • 484-542-8611 • Los Angeles, CA 90037
github.com/zbingsong • www.linkedin.com/in/bingsong-zeng

EDUCATION

University of Southern California, Los Angeles, CA Master of Science in Computer Science	August 2022-December 2024 GPA: 4.00
The University of Texas at Austin, Austin, TX Master of Arts in Chemistry	August 2020-May 2022 GPA: 3.89
Lafayette College, Easton, PA Bachelor of Science in Mathematics and Biochemistry (Honors)	August 2016-May 2020 GPA: 3.91 (summa cum laude)

WORK EXPERIENCE

Software Development Engineer Petkeley <ul style="list-style-type: none">Constructed Nest.js backend for next-generation app revolutionizing social media interactions via advanced AI techniquesCoordinated efforts of 3 teams to improve workflow efficiency and enhance cross-functional collaborationMentored 2 fresh interns on backend development to promote team building and facilitate feature deliveryAssisted development of ML-based recommendation algorithms for feed personalization and user matching suggestion	January 2024-April 2024 Berkeley, CA
Software Development Engineer Intern Wuhan KM Information Technology Co., Ltd. <ul style="list-style-type: none">Engineered comprehensive enterprise full-stack PLM platform integrating DevOps tools with Vue.js and Spring BootLed compact team of developers and collaborated with multiple departments, ensuring timely delivery of core featuresSlashed network requests from some client actions by 95% by creating management features utilizing batch operationsDesigned reliable document data extraction feature, curtailing time for feeding datafiles to company network by 97%	May 2023-August 2023 Wuhan, China
Backend Software Engineer Intern Petkeley <ul style="list-style-type: none">Constructed Nest.js backend with MySQL and MongoDB for social media app, gaining 3000+ users within 4 monthsParticipated in code reviews and collaborated with frontend and marketing teams to enhance user experienceArchitected efficient cache store with Redis for user sessions and information, improving session lookup speed by 150%Eliminated performance bottleneck by redesigning backend with Kafka and refactoring WebSocket into microservice	December 2022-May 2023 Berkeley, CA

RESEARCH EXPERIENCE

Graduate Research Assistant , University of Southern California Advisor: Dr. Ruishan Liu Topics: Prediction of binding affinity of short peptide with MHC-I molecules through BERT-based contrastive learning	January 2024-present
--	----------------------

PROJECT EXPERIENCE

Multithread Rate-Limiting Message Queue System <ul style="list-style-type: none">Implemented multithreaded message queue in C with token bucket design, providing effective rate-limiting functionalityIntegrated mutexes and conditional variables to ensure data integrity and maximize resource efficiencyValidated system's high efficiency in simulations, achieving total operation time within 2 sec of theoretical minimum	August 2023-September 2023
Student Performance Lookup System <ul style="list-style-type: none">Created lookup system using sockets in C++ with parallel client-server connections and multi-process server architectureEstablished TCP-based client-server communication and UDP-based inter-server communications	March 2023-May 2023
Event Browser (https://eventbrowser30789.wl.r.appspot.com/) <ul style="list-style-type: none">Developed event browsing website with Angular as frontend and Node.js as backend, hosted on Google Cloud PlatformCreated RESTful web APIs in backend to process data from Google Maps, Spotify, and Ticketmaster databases	March 2023-April 2023

TECHNICAL SKILLS

Programming Languages: TypeScript, JavaScript, HTML, CSS, Python, Java, C++, C, SQL, Bash
Frameworks/DBs: Nest.js, Node.js, React.js, React Native, Angular, Vue.js, Spring Boot, Django, MongoDB, Redis, MySQL
Software/Tools: Git, Docker, Apache Kafka, Maven, SonarQube, Jira, Jenkins, GCP, Wolfram Mathematica