JUN XIA

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Education

University of California, Irvine   **Sep 2021 – Jun 2025**
Bachelor of Science in Computer Science | GPA: 3.71   *Irvine, CA*

Relevant Coursework: Data Structure Implementation and Analysis, Database Management, Machine Learning and Data-Mining, Searching Systems, Human Computer Interaction, System Design, Test-driven Development

Honors: Dean's Honor List (6 quarters)   **Sep 2021 - Jun 2024**

Technical Skills

Programming Languages: Python, HTML, CSS, JavaScript, TypeScript, Java, Scala, SQL, C++
Frameworks/Libraries: Streamlit.py, React.js, Node.js, Angular.js, TensorFlow, PyTorch, Pandas, Numpy, Keras
Technologies: Git, CI/CD, Linux, REST API, Docker, Kubernetes, MySQL, MongoDB, WordPress, Google Cloud Platform Computing Service, AWS EC2

Experience

Software Developer   **May 2024 – Present**
Google Summer of Code   *Remote*

- Led the design and implementation of an interactive web interface for an open-source Python library Selector using **Streamlit**, enabling medical chemists with minimal programming experience to efficiently perform data analysis.
- Set up a **CI/CD** pipeline with **GitHub Actions** to automate the process of building **Docker** images and deploying them to DockerHub and **HuggingFace**, enabling thousands of external users to navigate chemical space with support for various file formats like SDF, SMILES, and InChi.
- Conducted comprehensive design and code reviews to align with organization best practices and architecture.

Teaching Assistant   **Sep 2023 – Present**
UCI Course, ICS 33: Intermediate Programming   *Irvine, CA*

- Mentored **150+** students in an intermediate **Python** course, offering targeted advice on improving their code.
- Initiated innovative teaching methods to assist students with advanced topics such as **Asymptotic Analysis**, **Databases**, and **Functional Programming**, resulting in **93%** of students passing with a C or higher.
- Analyzed student learning gaps via weekly labs, boosting the instructor's RateMyProfessor 5.0 ratings by **20%**.

Undergraduate Researcher   **Jul 2023 – Sep 2023**
Information Systems Group, UC Irvine   *Irvine, CA*

- Orchestrated the deployment of a **Flask** application using **Docker**, facilitating seamless integration with a **WordPress** website hosted on **Google Cloud Platform**.
- Engineered a responsive front-end feature leveraging **JavaScript** and **HTML**, enabling users to upload JSON-formatted data to a **RESTful API**.
- Optimized dynamic container orchestration, reducing server costs by **20%** and enabling instant API-driven workflows.

Projects

Fablix | *Java, JavaScript, HTML, CSS*   **May 2024**

- Developed a full-stack web application to facilitate online movie browsing and transactions, utilizing a **MySQL** database and **Apache Tomcat** server hosted on **AWS EC2**.
- Enhanced security through **HTTPS**, **reCAPTCHA** integration, and use of **PreparedStatement** to prevent SQL injections, ensuring robust data protection.
- Input **360,000+** movie information through **SAX XML parsing** and developed advanced search capabilities, including full-text search, autocomplete, and fuzzy search features, for quick and accurate movie retrieval.
- Set up manual MySQL **master-slave** replication, applied JDBC **connection pooling**, and configured **load balancing** to distribute database load, ensuring high availability and reliability.
- Deployed the application in **Docker** containers and tested the deployment on AWS, ensuring seamless containerization and scalability.
- Configured and deployed the application to a **Kubernetes** cluster on AWS, setting up an automated master-slave MySQL configuration, enabling high availability and load balancing across multiple instances.
- Utilized **JMeter** to conduct performance testing on the Kubernetes cluster, measuring the system's throughput under different configurations, optimizing the application's responsiveness and scalability.