

Michael Xu

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EDUCATION

Washington University in St. Louis

B.S. in Computer Science, Minor in HCI, Minor in EE | GPA: 3.8

St. Louis, MO

Aug. 2023 – May 2027

TECHNICAL SKILLS

Languages/Frameworks: Java, Python, C++, JavaScript, HTML/CSS, R, Swift, SwiftUI, C#, C, PL/SQL, SQL, GraphQL, TypeScript, React, Scikit-learn, TensorFlow, PyTorch, Next.js, FastAPI

Technologies: AWS, Firebase, Unity, MongoDB, Oracle DB, Node.js, Git, Bitbucket, Jira, DBVis, Linux, Cuda, PostgreSQL, Redis, Docker, RQ, Alembic, Prometheus, OpenAPI, Spring

Relevant Coursework: C++ Lab, AI, Rapid Programming Development, Quantum Computing, Systems Software, Video Game Programming I & II, DSA, Analysis of Algorithms, Programming Systems and Languages, Network Analysis, Malware Analysis, GPU Programming, Parallel and Concurrent Programming, Web Dev, Computer Security

EXPERIENCE

Software Engineer

Aug. 2025 - Present

Ursaworks Robotics — React, Typescript, Javascript, Python

St. Louis, MO

- Maintain and enhance production **React**-based website used by **100+** active members across engineering teams
- Reduced page load time by **30%** through component refactoring, asset optimization, and improved rendering flow
- Designed and deployed a **YOLO-based** object detection pipeline on **NVIDIA** Jetson hardware, optimizing preprocessing and inference flow to support real-time autonomous perception during robotics testing

Summer 2025 Software Engineer Intern

May 2025 - Sept. 2025

National Information Solutions Cooperative (NISC) — Java, Spring, PL/SQL

Lake St. Louis, MO

- Re-architected **100+** of legacy **PL/SQL** billing hooks into modular **Spring Boot** services (**Java**), replacing **ksh** orchestration with DAO/BO layers executed in-process on **100M+** statements, gave performance speedup of 40%.
- Partnered with **6 senior engineers** to deploy and validate billing modules on **bctest12**, review and merge PRs in **Bitbucket**, and coordinate directly with utility clients to secure test datasets and configuration files.
- Established a repeatable **PL/SQL-to-Java modernization pipeline**, producing a detailed migration playbook that improved onboarding velocity and de-risked large-scale production releases.

Teaching Assistant and Personal Tutor

Aug. 2024 - Present

WashU — Java, Python, C++, C

St. Louis, MO

- Mentored **200+** students in Data Structures, AI, and Discrete Math; debugged complex code submissions, clarified algorithmic design patterns, and evaluated assignments and exams across large-scale courses.

PROJECTS

Badminton Club Task Scheduling System | Spring Boot, React, MySQL, Hibernate

Jan. 2026 – Present

- Deployed full-stack task orchestration system, supporting **200+** concurrent users during peak planning cycles.
- Engineered a layered **Spring Boot** backend (Controller–Service–Repository) exposing RESTful endpoints for task, event, and role management with transactional integrity and clean separation of concerns.
- Designed normalized relational schemas and **JPA** entity mappings (User, Task, Event, Assignment), enforcing role-based access control and referential consistency at the **MySQL** database layer.
- Built a React frontend with reusable stateful components and **Axios-driven API** integration to support dynamic task lifecycle updates and real-time dashboard rendering.
- Implemented server-side validation, global exception handling, and optimistic UI state synchronization to ensure consistent client–server behavior under concurrent updates.

LeetCode Tracker | FastAPI, Next.js, React, Postgres, Docker

Jan. 2026 – Present

- Developed a **Next.js + React** dashboard with token-aware routing, paginated browsing, and mark done/undone actions, styled with **Tailwind** for a clean daily-picks UI
- Built full-stack spaced-repetition platform with authentication, token-aware routing, and persistent user state.

Cover Letter Generator | Python, Streamlit, LLM API, SQLite

Dec. 2025 – Jan. 2026

- Developed AI-driven content generation app with configurable prompt tuning and persistent session history.
- Designed **SQLite-backed** storage layer handling **1k+ document generations** during testing.
- Improved generation consistency by **20%** through structured prompt templates and parameter calibration.