Yipeng (Perry) Zhu

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Technical Skills
- **Languages** - C++, C, Java, JavaScript, TypeScript, Python, R, SQL, MATLAB, bash, HTML/CSS
- **Tools/Frameworks** – React.js, Express.js, AWS, Docker, Git, MySQL, MongoDB, PyTorch

Work Experience

UBC Pacific Laboratory for Artificial Intelligence (PLAI)
Software Engineer - Infrastructure & Custom Development   May 2025-Present
- Developed comprehensive Java plugins and mods for PLAICraft AI research project, enabling behavioral data collection through Minecraft environments for AI training.
- Utilized cloud infrastructure by creating and modifying AWS Lambda functions and DynamoDB databases to support social features and real-time data processing pipelines.
- Led major infrastructure upgrade from Minecraft 1.19.4 to 1.21.4, updating all custom plugins, mods, and AMI configurations.
- Implemented security and monitoring systems and rewrote/refactored all existing plugins and mods for better extendibility with a unified Docker build environment for better maintainability.

The University of British Columbia, Department of Computer Science
Teaching Assistant - CPSC304 Introduction to Relational Databases   Jan 2025-Apr 2025
- Conducted weekly lab sessions guiding over 50 students through relational database design, ER models, relational algebra, and SQL implementation.
- Mentored 5 groups on full-stack database management projects through weekly meetings and provided comprehensive feedback via grading and responsive Piazza/email support.

Technical Projects

Personal Website
Modern Frontend Website with React, Tailwind CSS, and Interactive Components   Apr 2025-May 2025
- Developed responsive personal portfolio website using React, TypeScript, and Tailwind CSS with Hero UI and Radix UI component libraries.
- Implemented interactive features including Framer Motion animations, Embla Carousel, fullpage.js, and custom 3D graphics using Three.js and WebGL.
- Deployed using Docker with Caddy web server on AWS EC2 with automatic HTTPS and utilized modern tooling including Vite, ESLint, and Prettier.

UNO Game Management System
Full-Stack Data Management Project   Jul-Aug 2024
- Developed a 5-page UNO game management system with administrator authentication in a team of 3.
- Built RESTful API backend with Express framework, implementing cookies and local storage for state preservation and asynchronous fetches for smooth user interactions
- Designed SQL DDL/DML templates with sanitization for injection prevention, featuring nested aggregation, division operations, and view creation functionalities

Education

University of British Columbia   Sep 2023-Present
4th year Bachelor of Science, Combined Major in Computer Science and Statistics
The Ohio State University (transferred)   Aug 2022–May 2023
1st year Bachelor of Science, Major in Computer Science Engineering