# David Xiao

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#### Summary

Computer Science student and software engineer with hands-on experience in full-stack development, system architecture modernization, and security-focused programming. Skilled in JavaScript, PHP, API development, and Agile methodologies, with proven ability to transform legacy monolithic systems into scalable, modular applications for B2C and B2B environments. Experienced in developing task management platforms with role-based access controls, real-time functionality, and cross-organizational support.

#### EDUCATION

## **CUNY Hunter College**

New York, NY Aug. 2022 - Present

Bachelor of Arts in Computer Science

## Work Experience

#### Software Engineer Intern

 $June\ 2025-August\ 2025$ 

New York, NY

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 $\bullet$  Re-architected legacy JS/PHP into modular components, cutting feature development time by 25% and enabling B2C/B2B scalability

- Added 6+ new features to legacy chores system, increasing usability and adoption across B2C/B2B users
- $\bullet$  Converted core components into reusable modals, improving UI consistency and cutting frontend development effort by 20%
- Refactored 10+ API endpoints with REST + automated tests, reducing response times by 15% and supporting faster rollouts

### TECHNICAL PROJECTS

- Built a mobile-optimized task system for 100+ concurrent users with escalation logic and multi-round negotiation, cutting delays by 30%
- Implemented role-based access across multi-tier hierarchies, strengthening security and enabling efficient delegation
- $\bullet$  Unified B2C + B2B flows in one platform, reducing development overhead by 40% while maintaining feature continuity

# Personal Projects

ForgeArena | React, TypeScript, Node.js, Express.js, Firebase, Jenkins, GitHub Actions Aug 2025

Aug 2025 - Present

- Built a gamified fitness platform with 5-layer architecture supporting avatar progression, quests, and raid boss mechanics
- Integrated Gemini API for ML-powered workout recommendations, reducing user planning time by 40%
- $\bullet$  Implemented CI/CD pipeline with Jenkins + GitHub Actions, achieving 95% test coverage and automated Heroku deployments

RandCompile: Kernel Hardening via Compile-Time Forensic Resistance | Python, C, GCC, UNIX Feb 2025

- Built a GCC plugin to add compile-time kernel hardening with ABI randomization and data structure obfuscation
- Automated pointer encryption and modular ABI handling while ensuring compatibility with kernel modules
- $\bullet$  Maintained less than 5% performance overhead while enhancing kernel security under malicious hypervisor threat models

Campus Management System | React, Redux, Node.js, Express.js, PostgreSQL, Sequelize, Docker Nov 2025

- Architected multi-tenant PERN platform with 3-tier role-based access control supporting 15+ RESTful API endpoints
- Implemented JWT authentication with bcrypt hashing, securing user sessions across isolated association data
- $\bullet$  Containerized full-stack deployment with Docker Compose and Nginx, reducing setup time by 80% for new developers

## SKILLS

Programming Languages: Java, Python, C/C++, JavaScript, PHP, SQL, MIPS Assembly, BASH

Web Technologies & Frameworks: React, Node.js, Express.js, HTML/CSS, jQuery, RESTful APIs, PERN Stack

Databases & Cloud: PostgreSQL, MySQL, GCP

Tools & Methodologies: Git, VS Code, UNIX, Agile Scrum, Automated Testing