Bruce Huang

Medford, MA | +1 336-986-5980 | yanxiao.huang@tufts.edu | yanxiaohuang.com

Education

Tufts University, B.S. in Computer Science *Expected graduation: May 2027*
GPA: 3.83
Relevant Coursework: Operating Systems, Algorithms, Data Structures, Machine Structure & Assembly, Software Engineering, Programming Languages (Language semantics, dynamic dispatch, type systems, polymorphism, type inference)

Skills

Programming: C/C++, Python, Java, JavaScript, SQL
Systems & Debugging: Linux/Unix shell, gdb, Valgrind, qcachegrind, memory management, profiling
Testing & Development: Unit testing, regression testing, Git, GitHub Actions (CI), Docker
Databases & AI: PostgreSQL, MySQL, Chroma, LangChain, OpenAI API, Claude Code, Codex

Experience

Castrol — Python, Power BI, Database, Automation, AI Agents May 2026 – Aug 2026
Supply Chain Data Engineer Intern

- Maintained data structures across complex semantic models, including data validation, database updates, field mapping, and documentation to support reliable supply chain finance reporting.
- Automated department workflows by engineering scripts for spreadsheets, databases, and internal AI agents.
- Led AI integration initiatives involving internal agents, LLM-assisted analysis, workflow design, and employee training.

Fosun Hive Capital Management — Python, SQL, Power BI May 2024 – Aug 2024
Finance Data Analytics Intern

- Built Python and SQL pipelines to clean, validate, and analyze financial and operational data covering $500M+ in joint-venture assets.
- Maintained internal databases and semantic models, standardizing data and automating recurring processing to improve weekly reporting efficiency by 30%.

Projects

Universal Machine — C, Valgrind, qcachegrind Nov 2025

- Implemented a virtual machine with 14 opcodes, segmented memory, and register management.
- Built tests using sample UM programs to validate instruction behavior, memory operations, and edge cases.
- Profiled execution with Valgrind and qcachegrind, achieving a 3.14× execution speedup.

Local File RAG Agent — Python, LangGraph, LangChain Sep 2026 – Present

- Designed an agentic RAG system using LangGraph and Chroma with question routing, semantic retrieval, relevance grading, bounded query rewriting, and grounded answer generation.
- Built validated file/page citations, persistent vector indexing, and web-search fallback for insufficient local evidence, with unit and integration tests covering retrieval, agent workflows, and failure cases.

Visitor Registration Kiosk — JavaScript, Android WebView, Git May 2025 – Aug 2025

- Independently shipped a bilingual offline registration system with local persistence, PDF rendering, digital signatures, and administrative data management, reducing manual workload by 60%.
- Added regression tests for signature and document-scroll workflows and used modular JavaScript and Git to maintain reliability across changes.