Lance D. Wong

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Education

Columbia University | New York, NY *August 2020 – Present*
Bachelor of Science in Computer Science, Minor in Math, GPA 3.80 Expected Graduation, May 2024

High School Dual Enrollment at Worcester Polytechnic Institute | Worcester, MA *August 2019 – May 2020*
Math and Biology coursework with 30 Credit Hours, GPA 4.00 unweighted
AIME qualifier, Eagle Scout, ARML (5 years), MIT Massachusetts State Science Fair 4th Place Award

Experience

Columbia University | New York, NY *January 2023 – Present*
Teaching Assistant, Social Chair - COMS W4111 Database Systems
- Assisted 400+ students with database concepts (DBMS, ER Design, NoSQL, Graph GBs, Building DB Applications)
- Organized weekly events to promote unity among TA core

AbbVie | Worcester, MA *May 2021 – August 2022*
Software Engineer Intern
- Developed and maintained 2 asynchronous React web apps using a TS frontend, Python/TS backend, PostgreSQL database, and AWS server. Projects aided researchers in analyzing germline mutation and have been used 250+ times
- Optimized De novo assembly PyTorch script by updating algorithm and translating to C++, reducing runtime by ~50%
- Assisted in training and onboarding other interns

UMass Medical School | Worcester, MA *May 2019 – June 2020*
Research Intern / Department of Immunology
- Investigated the immunological mechanisms in lupus and morphea under Dr. Jillian Richmond (Google Scholar)
- Co-authored "CXCL9 links skin inflammation and fibrosis via CXCR3-dependent upregulation of collagen 1a1 in fibroblasts" (https://doi.org/10.1016/j.jid.2022.11.025)
- Authored 4 articles for UMass Medical School Lupus website (UMMS Lupus Blog)

Projects

CoBruh (Imperative Language Emphasizing Human Readability) *Fall 2022 – Winter 2023*
- Wrote an imperative, strongly and statically typed programming language from scratch with two classmates.
- Compiler written in OCaml with C libraries and targets LLVM IR - Features: type inference, significant whitespace, and intuitive syntax

Manufacturing Standard Operating Procedure (SOP) *Summer 2022*
- Collaborated with a team of 5 to develop an interactive VR simulation of an operating procedure to educate employees on how to operate certain machines (C#, Unity, Blender)
- Business case and grand winner of AbbVie Hackathon (HackVie)

Web Server *Fall 2021*
- Built a web server from scratch using C and TCP/IP protocol
- Server was designed to accept requests and load static and dynamic web pages coded HTML
- Created the client web page (a lookup server designed to lookup messages in a database) alongside the server

Skills

Programming: JavaScript/TypeScript (ReactJS, NodeJS), Python (Pandas, PyTorch, NumPy, Flask), C++, C, C#, SQL, Java, HTML, CSS, LaTeX, PostgreSQL, pgAdmin, MongoDB, Neo4j, Plotly, MIPS Assembly, Docker, GCC, JSON, OCaml, AWS, Jenkins
Hardware: Arduino, LTSpice, oscilloscope, multimeter, logic analyzer
Software: IntelliJ/VS code, Linux command line, Android Studio, SolidWorks, OpenCV, GitHub, Git, Unity, Adobe Premiere Pro
Languages: English (native), Cantonese (conversational), Mandarin (conversational), French (beginner)

Relevant Coursework

Completed: Artificial Intelligence, CS Theory, Database Systems, Advanced Programming, Fundamentals of Computer Systems, Computational Linear Algebra, Data Structures, Programming Languages and Translators, Natural Language Processing
In Progress: Empirical Methods of Data Science, Competitive Programming

Activities

Clubs: Columbia Competitive Programming Team (ICPC), Application Development Initiative, Columbia Barbell