

Lance Wong

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EDUCATION

Columbia University in the City of New York

Expected Graduation: May 2024

B.S. Major in Computer Science & Minor in Applied Math

GPA: 3.8/4.0

Activities: Columbia Competitive Programming Club (Co-President), Columbia Barbell (Secretary), Competitive Programming Team (ICPC), Application Development Initiative

Relevant Coursework: Applied Machine Learning, AI, Programming Languages and Translators, NLP, Database Systems, Parallel Functional Programming, Cloud Computing, Fundamentals of Computer Systems, Computational Linear Algebra

EXPERIENCE & RESEARCH

Intuit

Mountain View, CA

Software Engineer Intern / Application Security

June 2023 – September 2023

- Engineered a new end-to-end service to automate security ticket resolution utilizing generative AI, prompt engineering, AWS Lambda, API Gateway, S3, SQS, SNS, and related services
- Linked internal compliance platform with data protection services for automated key encryption and authentication
- Employed PyTest for comprehensive unit, integration, and end-to-end testing
- Deployed project reduced ticket resolution time by 95% with >90% confidence on company-wide compliance platform

Columbia University

New York, NY

Teaching Assistant - COMS W4111 Database Systems

January 2023 – May 2023

- Assisted 400+ students with database concepts (DBMS, ER Design, NoSQL, Graph DBs, Building DB Applications)
- Served as social chair, organized weekly events to promote unity among TA core

AbbVie

Remote

Software Engineer Intern

May 2021 – August 2022

- Developed and maintained 3 asynchronous full-stack web applications to aid researchers in analyzing germline mutation, molecular dynamics, and sequencing data using ReactJS, NodeJS, ExpressJS, PostgreSQL, Docker, AWS EC2
- Designed & optimized de novo assembly algorithms utilizing PyTorch C++ API to aid scientists in analyzing genome data
- Wrote extensive unit, integration, and functional tests in TypeScript and Python

UMass Chan Medical School

Worcester, MA

Research Intern / Department of Immunology

May 2019 – June 2020

- Leveraged Python/R packages with wet lab assays to investigate immunological mechanisms in lupus and morphea under Dr. Jillian Richmond (Google Scholar)
- Published a peer-reviewed article and 3 peer-reviewed abstracts

PROJECTS

Market Volatility and Internet Comment Sentiment

Winter 2023 – Spring 2023

- Explored influence of online communities on financial market volatility, using PushShift Multithread API Wrapper and Python Reddit API Wrapper for ticker and name frequency data extraction, BERT HuggingFace-based emotion classifiers for data labeling, and Machine Learning models for regression analysis
- Demonstrated significant Granger causation between online forum sentiment and market dynamics ($p < 0.02$)

CoBruh Programming Language

Fall 2022 – Winter 2023

- Developed CoBruh, an imperative, strongly and statically typed programming language from scratch
- Coded scanner, parser, and semantics checker in OCaml with C libraries and targets LLVM IR
- Implemented features include type inference, significant whitespace, arrays, functions, control flow, and intuitive syntax

VR 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 specialized machinery using C, Unity, and Blender
- Conducted 10+ senior employee interviews to shape product roadmap, with plans for future gamification features
- Earned grand winner and business case winner awards at the AbbVie Hackathon

TECHNICAL SKILLS

- Programming Languages:** Python, C++, TypeScript, JavaScript, OCaml, C, Java, SQL, HTML/CSS, R
- Technologies:** ReactJS, NodeJS, ExpressJS, PyTorch, Flask, FastAPI, Docker, NumPy, Pandas, GCC, AWS Lambda, AWS API Gateway, AWS S3, AWS EC2, AWS SQS, AWS SNS, AWS AppSync, Prompt Engineering, OpenCV, Bash Script, Postman, Git, RESTful, Jupyter, Jira, Jenkins, Unity, PostgreSQL, pgAdmin, MongoDB, DynamoDB, Firebase, Kubernetes