Lance Wong

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Education

Columbia University in the City of New York — New York, NY

B.S. Major in Computer Science & Minor in Applied Math, GPA: 3.8/4.0 — *Expected Graduation: December 2024*

- Activities: Columbia Barbell (Secretary), Competitive Programming Team (ICPC), Application Development Initiative
- Relevant Coursework: Applied Machine Learning, AI, NLP, Cloud Computing, Database Systems, Programming Languages and Translators, Parallel Functional Programming, Fundamentals of Computer Systems, Computational Linear Algebra

Experience

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 / Full Stack — *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 Assistant / 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 about the underlying mechanisms of morphea:

  Wong LD [as part of] Richmond JM et al. "CXCL9 Links Skin Inflammation and Fibrosis through CXCR3-Dependent Upregulation of Col1a1 in Fibroblasts." J Invest Dermatol. 143(7):1138-1146.e12, 2023.

Projects

BookBuddy Cloud-Native Application — Fall 2023 - Present

- Created BookBuddy, a cloud-native platform for book clubs, with RESTful APIs and microservices for scalability.
- Implemented a robust backend with AWS services, integrating CloudFront for content delivery, Lambda for serverless operations, EC2 for hosting, and RDS for database management.
- Leveraged OAuth for secure and efficient user authentication and management.

Lending Club Loan Status Prediction — Fall 2023 - Present

- Conducted extensive data preprocessing on a 2.2 million-entry Lending Club dataset, employing feature selection and correlation analysis to eliminate data leakage and enhance model efficacy.
- Refined various machine learning models (k-NN, SVM, Logistic Regression, Decision Trees, Random Forest, Neural Networks, Deep Learning), using PCA for dimensionality reduction and randomized tuning for optimized performance.

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

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