Alexander Chou

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EDUCATION

The University of Pennsylvania   Jan 2022 – Dec 2023
Master's degree, Computer Science and Information Technology   *GPA: 3.9/4.0*
- *Completed Coursework:* Computer/Operating Systems, Artificial Intelligence, Machine Learning, Data Structures & Software Design/Architecture, Algorithms & Computation, Big Data Analytics, Software Development, Discrete Math
- *Current Coursework:* Networked Systems, Computer Systems Programming

The University of Texas at Austin   2014 – 2019
Bachelor of Science, Mechanical Engineering   *GPA: 3.6/4.0*

EXPERIENCE

Guidewire Software   May 2023 – Aug 2023
Software Engineering Intern   *Exton, Pennsylvania*
- Developed an LLM-powered, Slack-integrated chatbot to answer questions regarding product documentation.
- Built and tested key API endpoints bridging Slack with MongoDB.
- Devised and implemented techniques including cosine similarity-based filtering (*99%* of irrelevant queries caught) and semantic caching to optimize answer quality and improve chatbot performance (*150x* speed improvement).
- Transitioned to Java backend product development team after 8 weeks and pioneered the implementation of a multicurrency data synchronization feature for policy payment plan changes.

Childhood Cancer Society   March 2023 – May 2023
Software Engineering Intern (Part-time)   *Remote*
- Contributed to continuous improvement initiatives for CCS's website using Javascript, HTML, and CSS.

Shell   June 2019 – Jan 2022
Mechanical Project Engineer   *Houston, Texas*
- Managed mechanical engineering-related projects in a storage tank rejuvenation program with up to 15 projects concurrently and individual budgets of up to *$9MM*.
- Influenced and coordinated multi-discipline technical groups without direct authority.

PROJECTS

Key Factors Behind Employee Attrition | *Python, scikit-learn, tensorflow, matplotlib*
- Conducted in-depth analysis of the IBM HR Analytics dataset to investigate key factors contributing to employee attrition.
- Utilized a diverse range of machine learning models (Random Forest, Logistic Regression, deep learning) to identify significant predictors and achieve improved prediction performance.

Full-Stack Image Recognition App | *React, Express, Node, Postgres*
- Developed a full-stack web app that allows users to create accounts and recognize images using the Clarafai API.
- Implemented a user-friendly interface that allows users to easily create accounts, upload images, and receive accurate image recognition results.

LC4 Assembler/Loader | *Valgrind, C, Assembly*
- Developed an assembler in C to translate commands from the Little Computer 4 (LC4)'s ISA into a binary executable for processing.
- Created a loader that converts binary executables back into commands, labels, and various data sections, utilizing a linked list for visualization on the LC4.

SKILLS & CERTIFICATIONS

Certifications: The Complete Web Developer in 2023 by Andrei Neagoie (Udemy)
Programming & Scripting Languages: Python, Java, C/C++, SQL, JavaScript, Bash
Version Control & Development Practices: Git (Platforms: GitHub, Bitbucket), Agile, Lean
Web & Cloud Technologies: HTML, CSS, Bootstrap, React, Node.js, Flask, Express, Docker, Jenkins, AWS
Databases & Big Data: MongoDB (noSQL), Postgres (SQL), Chroma (vector), Spark
ML/AI Libraries & Frameworks: numpy, pandas, scikit-learn, matplotlib, tensorflow, pytorch, Langchain