Michael Chen

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SUMMARY

Software engineer coming from a background in civil engineering. I am seeking opportunities in software engineering with a collaborative team environment and opportunities to learn and grow.

EXPERIENCE

Software Engineer (full-time), True Ad Solutions: July 2024 to Present
- Develop, review, and deploy code for full stack web applications hosted on AWS platforms. Independently responsible for developing and deploying features such as user account management, search result ranking, WYSIWIG editors, and more.
- Reduced feature loading time by 95% by implementing image thumbnailing, resource storage, and retrieval on AWS S3.
- Build integration testing framework for Python applications and MySQL databases using Docker and test-containers. Incorporate testing frameworks into GHA CI/CD pipelines.
- Ensure application and data security by implementing API authentication and controlling cryptographic material through AWS Secrets and application IAM roles.
- Troubleshoot and provide solutions to web application errors and unplanned downtime.
- Key technologies: Python, JavaScript, MySQL, AWS, Docker, Flask, FastAPI, Jinja, React.js, HTML, CSS.

Civil Engineer, Federal Highway Administration: October 2021 to April 2025, US Forest Service: July 2012 to October 2021
- Subject matter expert for geotechnical engineering and highway materials engineering. Work in interdisciplinary teams to deliver context sensitive engineering solutions to a variety of client agencies for transportation projects with scope up to $60M.
- Plan and execute fiscal year budgets up to $600K to support staff and operations within program area. Supervise a team of 7 laboratory technicians and 1 engineer.
- Instruct engineers in geotechnical investigation, quality control and quality assurance, statistical evaluation, pavement design, and highway materials engineering.

PROJECTS

Stock Market Trading using Artificial Intelligence, Oregon State University, CS 467 Capstone, Spring 2024
- Python software libraries: PyTorch, Pymoo, Pandas, Numpy, Yahoo-finance, PyPlot, Multiprocessing
- Process and manipulate large quantities of time series stock market data to provide indicators and measures to feed into PyTorch neural network models and time series optimization algorithms.
- Lead communication with project sponsor to identify desired project methods and outcomes. Manage merge conflict resolution. Implement novel strategies to evaluate neural network model performance and generalization.

Robot Design Competition 2012, Northwestern University, Spring 2012
https://github.com/lsapoz/esteban
- C programming language, PIC32MX microcontroller, mechatronics engineering, CAD software, prototype fabrication.
- Process data from analog and digital input sensors. Develop PID control code for servos and drive motors. Develop autonomous robot algorithm for completing robot design competition objectives. Finished in first place.

EDUCATION

Oregon State University, Corvallis, OR	*June 2024*
B.S. Computer Science	GPA: 4.00
Northwestern University, Evanston, IL	*June 2013*
B.S. Civil Engineering, Cum Laude	GPA: 3.72

Relevant Coursework
Data Structures, Analysis of Algorithms, Web Development, Cloud Application Development, Software Engineering I & II, Computer Networking, Databases, Operating Systems, Open Source, Assembly Language and Machine Architecture, Statistics

SKILLS AND ADDITIONAL QUALIFICATIONS

Python, C/C++, JavaScript, MySQL, HTML, CSS, React.js, Object Oriented Programming, API development, Linux, Docker, AWS

Licensed Professional Engineer (Civil Engineering) State of Oregon: PE95506