

Zach Sahlin

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EDUCATION

Gonzaga University | Spokane, WA

August 2019 – May 2023

BS in Computer Science, Minor in Applied Mathematics

- GPA: 3.7, Magna Cum Laude

PROJECTS

Stock Predictor 🤖 | Python, TensorFlow, AWS Lambda, AWS EventBridge, selenium

Spring 2023

- Designed a model to predict short term prices of stocks
- Created a data pipeline with web scrapers and APIs to collect historical and current data from various sources
- Leveraged AWS S3 to store and retrieve data
- Implemented a CI/CD pipeline with GitHub Actions to test and publish to AWS Lambda
- Developed a web app to display predictions updated daily

Machine Learning for Real Estate | Python, SQL, PyTorch, JS, Fast API

Fall 2022 - Spring 2023

- Collaborated with my Senior Design group to apply machine learning to real estate
- Collected, cleaned, and managed data on historical rental prices, crime data, and school scores
- Implemented and trained an LSTM to predict future rent prices
- Improved the REST API to decrease front end load time from 5 minutes to about 5 seconds
- Developed a web app to display historical prices and predictions in a graphical interface

Resume Builder 🤖 | Python, JavaScript, TypeScript, React, Next.js, MongoDB, LaTeX, AWS Lambda

Fall 2023

- Created a React Next.js web app to allow users to input resume content and manage multiple resumes
- Developed an AWS Lambda function to format a resume in LaTeX and build the resume as a PDF
- Solved Lambda dependency and image size constraints by leveraging AWS ECR

RESEARCH

Long Span Truss Analysis and Optimization | MATLAB

Spring 2023

- Partnered with Dr. Sara Ganzerli, Professor of Civil Engineering, and with civil engineering students
- Developed a script to analyze and optimize a truss to minimize material use within the load constraints

WORK EXPERIENCE

Teaching Assistant | Gonzaga University

August 2022 – May 2023

- Assisted Dr. Yanping Zhang in Operating Systems, Computer Security, and Internet of Things courses
- Critically analyzed, tested, and graded programming and written assignments

Online Private Instructor | iD Tech

June 2021 – August 2022

- Tutored in 8 different computer science topics, including C++, Java, and Python
- Completed over 200 private lessons
- Formed relationships with long-term clients, and further developed skills in communication and coding
- Collaborated with other instructors to improve teaching methods

RELATED COURSEWORK

- Algorithms & Abstract Data Structures
- Machine Learning & Intelligent Systems
- Data Science Algorithms
- Operating Systems
- Database Management Systems
- Programming Languages & Compilers
- Linux & DevOps
- Natural Language Processing

TECHNICAL SKILLS

- Languages: C++, Java, Python, C, SQL
- Tools: Git, Linux, Docker, Jupyter, GitHub Actions, Postgres, AWS Lambda, AWS S3
- Libraries: TensorFlow, PyTorch, pandas, NumPy, scikit-learn, Matplotlib