

Hunter Anderson

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Pacific Northwest National Laboratory – Software Engineer

July 2024 – Present

Back-End Application Development for Energy Grid Cyber Security

- Worked on a cloud native application that helps researchers identify hardware and software security vulnerabilities within the energy grid.
- Leveraged Amazon Web Services (AWS) to deploy serverless components with an event driven architecture. Utilized constructs such as Lambda, SQS, SNS, S3, DynamoDB, and EventBridge.
- Developed microservices in Node and Python to interact with data in DynamoDB and S3, made services available via API Gateway.
- Implemented Natural Language Processing (NLP) techniques for entity conflict resolution in a data pipeline. This pipeline cleans up low quality data and helps users with data curation.

AI for Intellectual Property classification

- Categorized 10,000+ Department of Energy research papers and patents which helps researchers and sponsors in finding mission relevant DOE research.
- Developed Python package for automated document classification, utilized AI fine-tuned for sentence similarity, and deployed service on an EC2 instance with S3 for large data storage.

Background Radiation Web-App

- Sped up query time for data visualization by 5x via integrating a full-stack solution that utilized PostGIS indexed data storage and client-side rendering with data caching.
- Updated AWS step function architecture for parallel data processing, resulting in a 3x improvement in data processing speed.

Robot Operating System (ROS) Drone and GenAI

- Wrote a Model Context Protocol (MCP) server that allows AI agent to receive data from a depth perception camera mounted on a drone.
- Simulated a drone flight with the depth perception camera and allowed AI agent to make navigation decisions based on object detections, depth data, and navigation data.

Pacific Northwest National Laboratory – Tech Intern

June 2023 – July 2024

Machine Learning for Disease Forecasting

- Using React, D3, and MapBox I built a web app to visualize disease presence in different geographic regions across the globe.
- Trained a Machine Learning model in Python that predicts disease presence up to four weeks in the future.
- Deployed full stack application with Docker.

University of Washington – Mathematics B.S.

2020 - 2024

Math: Advanced Calculus, Differential Equations, Linear Algebra, Topology, Real & Complex Analysis, Abstract Algebra, Combinatorics, and Probability.

Applied Math: Markov Chains & Monte Carlo Methods, Linear & Non-Linear & Discrete Optimization, Numerical Analysis, and Statistics for Data Science.

Computer Science: Computer Programming I & II, Data Structures and Algorithms, Software design & Implementation, Machine Learning, and Algos I.

Tools: AWS, Docker, Linux, Redis, SQL, Databricks, Git

Languages: Python, Javascript, Go, Rust, Java.