Sean Lane

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Experience

Software Development Engineer
Jun. 2020 – Present
Amazon Web Services
Herndon, Virginia
- Building highly available and distributed services with Route 53 Resolver, responsible for DNS resolution across AWS
- Triaged and resolved high severity systems failures across teams and organizations in a 24/7 environment
- Identified and implementation engineering improvements for manual processes and fleet management

Tools Used: Java • Ruby • DynamoDB • Redis • Linux • Git

Director of Engineering
Jan. 2018 – May 2020
Achilles Heel Technologies
Provo, Utah
- Responsible for technical development, implementation, and maintenance of core product
- Representing capabilities of cyber-physical vulnerability research to clients and stake holders
- Lead implementation of software proof-of-concept as a deliverable for multiple contracts

Tools Used: Python • JavaScript • PostgreSQL • AngularJS • Docker • Git

Graduate Intern
May 2019 – Apr. 2020
Applied Invention
Provo, Utah
- Project lead for technical development and deployment of predictive forecasting prototype for a Fortune 500 client
- Responsible for 12x run-time performance improvement across nationwide predictions
- Refactored codebase to be responsive to data source changes and implemented continuous validation processes

Tools Used: Python • SQL • Jupyter/IPython Notebooks • Git • Linux • Matplotlib

Graduate Intern
Jun. 2017 – Jun. 2019
Pacific Northwest National Laboratory
Richland, Washington
- Selected for the National Security Internship Program in the Computing and Analytics Division of PNNL
- Researched methods of conducting contingency analysis of power and water infrastructure models
- Developed component models to capture integrated power and water dynamics

Tools Used: Python • Java • MATLAB • Jupyter/IPython Notebooks • Git

Research Assistant
Sep. 2015 – Jun. 2017
BYU Information and Decision Algorithms Laboratories
Provo, Utah
- Lead development of a web application using vulnerability research of cyber-physical systems
- Developed and presented project architecture to staff of sponsoring agency, the Dept. of Homeland Security
- Conducted analysis on financial market and client data to produce predictive models

Tools Used: Python • JavaScript • PostgreSQL • MATLAB • AngularJS • Docker • Flask • Git

Software Engineer in Test Intern
Apr. 2016 – Jul. 2016
Instructure
Salt Lake City, Utah
- Worked with the Data Analytics team to improve test coverage and deployment efficiency
- Created a framework used to test production SQL queries which are used in the Instructure ETL process
- Refactored existing codebase to facilitate project needs, like strict typing within Apache Spark SQL

Tools Used: Scala • JavaScript • Apache Spark • NodeJS • SQL • Docker • Git • Jira • SBT

Education

Master of Science in Computer Science
August 2020
Brigham Young University
Provo, Utah
- Research interests include control systems, cybersecurity, data analysis, machine learning, and system modeling
- Master's thesis: Vulnerability Analysis of Infrastructure Systems — Graduate GPA: 3.48/4.00

Bachelor of Science in Computer Science
April 2016
Brigham Young University
Provo, Utah
- Minor in Mathematics — Cumulative GPA: 3.40/4.00
- Member of the Association for Computing Machinery, BYU Chapter and the BYU Developers Club

Tools Used: C • C++ • C# • Java • JavaScript • Python • Apache Spark • Docker • Git • Linux