Sean Lane

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Selected Experience

Senior Software Engineer — *May 2022 – Present*
Software Engineer — *Nov. 2021 – Apr. 2022*
Neighbor — Lehi, Utah

- Leading development of new price recommendation algorithms to improve host occupancy of the marketplace
- Led development of a geospatial analytics platform to enable efficient growth by focusing on strategic markets
- Reduced failed payment attempts on Neighbor's platform by 60% and improved price recommendations by 11%
- Added key infrastruction improvements and a custom integrated testing framework for Neighbor's payments system

Tools Used: Go • Ruby • Python • AWS • Pandas • H3 • Kubernetes • Docker • PostgreSQL

Software Development Engineer — *Jun. 2020 – Oct. 2021*
Amazon Web Services — Herndon, Virginia

- Built and operated critical services responsible for resolution of millions of DNS queries per second across AWS
- Despite staffing shortages, built out EC2 DNS for a new AWS region without incurring any further time delays
- Triaged and resolved critical systems failures across teams and organizations in a 24/7 operational environment
- Identified and implemented engineering improvements for fleet management of thousands of servers

Tools Used: Java • Ruby • C • DNS resolvers (BIND/Dnsmasq/Unbound) • AWS • Linux • Git • CI/CD

Director of Engineering — *Jan. 2018 – May 2020*
Achilles Heel Technologies — Provo, Utah

- Responsible for technical development, implementation, and maintenance of core product
- Represented 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

Education

Master of Science in Computer Science — *August 2020*
Brigham Young University — Provo, Utah

- Completed Master's Thesis on a graduate scholarship: Vulnerability Analysis of Infrastructure Systems
- Research projects included control systems, cybersecurity, cyber-physical systems, and forecasting system usage

Bachelor of Science in Computer Science — *April 2016*
Brigham Young University — Provo, Utah

- Minor in Mathematics, Capstone Projects with Lawrence Livermore National Lab. and ThinkBig Analytics
- BYU IDeA Labs Scholarship recipient, ACM (BYU Chapter) member, and the BYU Developers Club member

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