Thomas Stepp

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Experience

Software Engineer, Google Cloud   2021 – Present
- Working on Dataflow Streaming features and improvements

Software Engineer, Boeing AvionX   2017 – 2021
- Architect of continuous integration suite for flight software team of 150 developers
- Develop website to provide accessible software metrics to enable management decisions
- Reduced Matlab code generation times from 10 to 1.5 hours with parallelization and caching
- Plan and lead team through software upgrades of Matlab, Atlassian products, and Git

Network Engineer Intern, Facebook   2016
- Created scripts for automation of network switch testing with Tcl and Ixia hardware API
- Developed driver for IC chip with C++ to improve Wedge100 switch function and reliability

Education

M.S. in Computer Science, University of Southern California   2021
- Courses: Artificial Intelligence, Algorithms, Web Tech, Search Engines, Operating Systems

B.S. in Electrical Engineering, Purdue University   2017
- Courses: Software Engineering Tools, Algorithms & Data Structures, OO Programming
- Study abroad at Universidad Carlos III de Madrid in Spring 2016

Projects

Solr Search Engine   2021
- Created inverted index of news web pages, implemented auto-complete and spelling correction

Weenix Kernel   2021
- Implemented processes and threads, virtual filesystem, and virtual memory

Machine Learning: Handwritten Digit Classification   2020
- Programmed neural network from scratch in Python to classify digits from MNIST database

Go-Playing AI Agent   2020
- Programmed Minimax algorithm in Python to beat other AI agents at games of 5x5 Go in real-time

3-D Maze AI Agent   2020
- Programmed A* algorithm in Python to solve large-scale 3-D mazes efficiently

COCOMO II Web App, USC Center for Systems and Software   2020
- Developed GitLab pipeline to run Jest test suite, collect code coverage, and deploy to production
- Upgraded pipeline to deploy app changes to staging environments and evaluate web performance

React News Website   2020
- React front-end allows users to browse, share, and bookmark news articles from their browser
- Node.js + Express back-end provides news articles from the NY Times and The Guardian APIs

Flask News Website   2020
- Plain JavaScript front-end provides user search, word-cloud, and slideshow of top articles
- Python + Flask back-end provides news articles from Fox News & CNN via Google News API

UNIX Socket Programming   2019
- Five C/C++ programs in distributed system for storing, querying, & calculating network delays

Presentations & Awards

Boeing Technical Excellence Conference, Model-Based DevOps presentation   2021
Boeing MATLAB Community of Practice, Model-Based Continuous Integration presentation   2020
Boeing Technical Excellence Conference, Two confidential technical presentations   2020
Boeing Intellectual Property Management, Meritorious Invention Award   2020
Boeing Simulation Conference, S-Function Integration with Simulink presentation   2018