

# Thomas J. Stepp

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## Experience

<b>Software Engineer, Google Cloud</b>	2021 – Present
<ul style="list-style-type: none"><li>Working on Dataflow Streaming features and improvements</li></ul>	
<b>Software Engineer, Boeing AvionX</b>	2017 – 2021
<ul style="list-style-type: none"><li>Architect of continuous integration suite for flight software team of 150 developers</li><li>Develop website to provide accessible software metrics to enable management decisions</li><li>Reduced Matlab code generation times from 10 to 1.5 hours with parallelization and caching</li><li>Plan and lead team through software upgrades of Matlab, Atlassian products, and Git</li></ul>	
<b>Network Engineer Intern, Facebook</b>	2016
<ul style="list-style-type: none"><li>Created scripts for automation of network switch testing with Tcl and Ixia hardware API</li><li>Developed driver for IC chip with C++ to improve Wedge100 switch function and reliability</li></ul>	

## Education

<b>M.S. in Computer Science, University of Southern California</b>	2021
<ul style="list-style-type: none"><li>Courses: Artificial Intelligence, Algorithms, Web Tech, Search Engines, Operating Systems</li></ul>	
<b>B.S. in Electrical Engineering, Purdue University</b>	2017
<ul style="list-style-type: none"><li>Courses: Software Engineering Tools, Algorithms &amp; Data Structures, OO Programming</li><li>Study abroad at Universidad Carlos III de Madrid in Spring 2016</li></ul>	

## Projects

<b>Solr Search Engine</b>	2021
<ul style="list-style-type: none"><li>Created inverted index of news web pages, implemented auto-complete and spelling correction</li></ul>	
<b>Weenix Kernel</b>	2021
<ul style="list-style-type: none"><li>Implemented processes and threads, virtual filesystem, and virtual memory</li></ul>	
<b>Machine Learning: Handwritten Digit Classification</b>	2020
<ul style="list-style-type: none"><li>Programmed neural network from scratch in Python to classify digits from MNIST database</li></ul>	
<b>Go-Playing AI Agent</b>	2020
<ul style="list-style-type: none"><li>Programmed Minimax algorithm in Python to beat other AI agents at games of 5x5 Go in real-time</li></ul>	
<b>3-D Maze AI Agent</b>	2020
<ul style="list-style-type: none"><li>Programmed A* algorithm in Python to solve large-scale 3-D mazes efficiently</li></ul>	
<b>COCOMO II Web App, USC Center for Systems and Software</b>	2020
<ul style="list-style-type: none"><li>Developed GitLab pipeline to run Jest test suite, collect code coverage, and deploy to production</li><li>Upgraded pipeline to deploy app changes to staging environments and evaluate web performance</li></ul>	
<b>React News Website</b>	2020
<ul style="list-style-type: none"><li>React front-end allows users to browse, share, and bookmark news articles from their browser</li><li>Node.js + Express back-end provides news articles from the NY Times and The Guardian APIs</li></ul>	
<b>Flask News Website</b>	2020
<ul style="list-style-type: none"><li>Plain JavaScript front-end provides user search, word-cloud, and slideshow of top articles</li><li>Python + Flask back-end provides news articles from Fox News &amp; CNN via Google News API</li></ul>	
<b>UNIX Socket Programming</b>	2019
<ul style="list-style-type: none"><li>Five C/C++ programs in distributed system for storing, querying, &amp; calculating network delays</li></ul>	

## Presentations & Awards

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