

# Joshua Schmidt

SOFTWARE ENGINEER @ GOOGLE

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## Education

### Cornell Tech

MASTER OF ENGINEERING IN COMPUTER SCIENCE

New York, NY

May 2022

CONCENTRATION: Machine Learning · Merit Scholarship · COURSES: Machine Learning Engineering, AR & VR, Designing Interactive Devices

### Stevens Institute of Technology

BACHELOR OF ENGINEERING IN COMPUTER ENGINEERING

Hoboken, NJ

May 2021

MINOR: Computer Science · Highest Honors · COURSES: Data Structures, Advanced Algorithms, NLP, Systems Programming

## Technical Skills

### Languages

C++, Python, Node.js, Go, Java, C#, C

### Tools / Libraries

Tensorflow, PyTorch, Huggingface, Colab, ProtoBufs, OpenCV, ROS, Docker, Springboot, Unity,  $\text{\LaTeX}$ , MQTT

### Web / OS

TypeScript, JavaScript, Next.js, HTML, CSS, React.js, Vue.js · Linux — Debian and Arch based, MacOS

### DB / Cloud

MongoDB, Spanner, PostgreSQL, Redis, Elasticsearch · AWS, GCP, Netlify, Firebase, Heroku, Kubernetes, Serverless, CI/CD

## Experience

### Google

SOFTWARE ENGINEER, PLAY STORE

New York, NY

Aug 2022 - Present

- Added support for indexing fresh, personalized YouTube developer videos on the Play Store, which increased user engagement by over 30% on certain surfaces, driving app installs and increasing revenue.
- Worked on projects incorporating LLM-generated content, specifically from Bard and Gemini, in new content experiences on the Play Store.
- Designed and implemented the Short Form Video Cluster backend, which surfaces YouTube Shorts on the Play Store.

### NASA Langley Research Center

ASSEMBLERS SOFTWARE INTERNSHIP

Langley, Virginia

May 2021 - Aug. 2021

- Created a Software in the Loop Simulation of the Assemblers robot, incorporating a physics engine and a real-time messaging service (DDS). Developed simulations of all hardware components, including joint controllers, the IMU, and cameras, all fully interoperable with real hardware.
- Designed and implemented a user interface for visualizing and recording the simulation. Used 3D models of the modular Stewart platforms to accurately display the robot interacting with elements on the lunar surface. This desktop application was built with Qt, Python, and C++.
- Integrated with the trajectory generator and executor to show log messages in the UI.

### U.S. Census Bureau

CIVIC DIGITAL FELLOWSHIP, SOFTWARE ENGINEER

Washington, D.C.

May. 2020 - Aug. 2020

- Engineered an NLP system for extracting and parsing pseudocode from 500+ page text documents, converting to an abstract object-oriented hierarchy. Processed this datastructure to generate executable Python code, used to validate decennial census data.
- Developed a REST service in Python to proxy requests to the Spark and Spark History UI, enabling access without ssh forwarding. Used bs4 to parse HTML and rewrite URL paths. Created reports and visualizations for Differential Privacy System executions, accessible in an internal dashboard.

### Nokia Bell Labs

ROBOTICS DEVELOPMENT INTERNSHIP

Murray Hill, NJ

May 2019 - Aug. 2019

- Upgraded swerve drive robot platform to navigate autonomously, using ROS to handle data processing. Required substantial changes in hardware and software, with new motorcontrollers, motors, microprocessors, and kinematics software.
- Integrated onboard drivetrain control software developed in C++ and Python, utilizing odometry data from onboard encoders, LIDAR, computer vision and an IMU. New modular design enables hot-swapping sensors and end effectors.

## Projects

### FlexApp AI

RENTAL APPLICATION AUTOMATION TOOL

New York, NY

Dec. 2021 - June 2022

- Cofounder of FlexApp, a tool that makes it easy for prospective renters to apply for apartments, and property managers to review applications.
- Lead developer of five-person team, created novel AI tools that read PDFs and converted the text to and from consistent formats, solving a major pain-point for both applicants and realtors.
- Created a React & Next.js based web app deployed to AWS for managing applications and making the submission process as seamless as possible, with one-click applications.
- Built AI models for matching applicants with the best rentals for their credit history and financial constraints. Created tools for interfacing with Plaid and banking data, to support renters who are under-banked.

## SSMIF

Hoboken, NJ

### STEVENS STUDENT MANAGED INVESTMENT FUND

Aug. 2020 - May 2021

- Lead developer of a team of 15 quantitative analysts and software engineers managing an endowment fund worth over \$700k.
- Created a factor model for analyzing past and projected performance of the fund. Leverages several ML models — Arima Regression, Random Forest, Attention-based Neural Networks — built with Tensorflow and Scikit learn using C++ and Python.
- Built a React & Next.js based web app deployed to AWS for executing transactions, visualizing performance, and running the factor model.
- Developed Lambda functions to automate fetching & analyzing ticker data, generating excel reports, and running GitHub Actions CI / CD updates.

## reScribe

Hoboken, NJ

### A BETTER WAY TO SEARCH FOR CODE

Oct. 2020 - July 2021

- Software development lead, working with 5 designers and engineers to build the most advanced source code search and analysis tool.
- Created a scalable, NLP-based algorithm for indexing open-source code. Used ANTLR4 to parse code syntax, and integrated with Elasticsearch.
- Designed a public authenticated GraphQL API for integrating with client-facing applications, including a first-party web app (created using Gatsby), VSCode extension, and GitHub App (for CI/CD integration). Over 10k repositories indexed.