

# Logan Stack

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Detroit, MI 

## Work Experience

### Software Engineer II – General Motors

Detroit, MI • March 2022 – Present

- Built a RESTful web application for all camera-related software tools using React, Node.js, and Flask
- Automated camera target testing by training a YOLOv7 object detection model and connecting it to a gimbal, resulting in a sub-pixel accuracy of 0.1 and saving 16 hours of testing per camera
- Increased runtime efficiency of a now-patented modulation transfer function (MTF) algorithm by reducing expensive calculations, resulting in a 55% improvement
- Developed 6 image analysis tools in Python for evaluating properties such as noise and color accuracy
- Created Python GUI tools using Tkinter to improve usability of 3 different camera testing machines
- Designed a demosaicing algorithm to aid in evaluating the color difference of supplier image sensors
- Mentored 6 junior software engineers, supervising their work and career growth

### DevOps Engineer – General Motors

Detroit, MI • Sep 2019 – Mar 2022

- Co-authored a Jenkins-based CI/CD pipeline in Groovy, managing 65 vehicle software components
- Utilized Git repository history to automate the generation of release letter content for Electronic Control Units, serving as official business records with 10 new records being generated daily
- Implemented a build error detection system that reports issues directly to the offending user
- Devised a system for automated archival of data to support information lifecycle management policies

### Software Engineer Intern – Michelin

Greenville, SC • May 2018 – Aug 2018

- Engineered a repository migration application using the Grails framework, enabling the automatic transfer of project data from Subversion to Git
- Made an app to track hardware allocation using MongoDB, Express.js, Angular 6, and Node.js

## Education

### B.S. in Computer Science – The Pennsylvania State University

University Park, PA • 2015 - 2019

## Technical Skills

**Languages** - Python, Javascript, C++, Java, Groovy, HTML/CSS, MySQL, Lua, Perl, Bash

**Tools & Frameworks** - Flask, React, Node.js, Electron, Bootstrap, Git, Jira, Jenkins, Docker, Azure, Linux

**Certifications** - SAFe 5.1 (Scaled Agile Framework), Design for Six Sigma (DFSS)

## Projects

**shortstack.app** Python, Javascript, React, Flask, PostgreSQL, Redis

- Deployed a URL shortening service to better educate myself on the full stack development process

**Connect 4 AI** Python

- Wrote Connect 4 using Pygame with a scaling AI opponent based on the Minimax algorithm

**Godot Video Game** GDScript

- Developing a point-and-click adventure game in Godot inspired by Monkey Island and Grim Fandango