

# KUSH K. PATEL

(734) 881- 3768 • patkush@umich.edu • US Citizen • [Linkedin](#) • [Github](#)

## EDUCATION

### University of Michigan - School of Engineering

Ann Arbor, MI

Undergraduate Student - Bachelors of Engineering

Graduation: April 2026

- Major: Computer Science
- Relevant Coursework: Discrete Math, Programming and Intro Data Structures, Data Structures and Algorithms, Computer Organization, Computational Theory

## EXPERIENCE

### Michigan State University

East Lansing, MI

Undergraduate Teaching Assistant

August 2023-December 2023

- Instructed MATLAB scripting for efficient numerical solutions, aiding students in understanding complex systems through the simulation of intricate physical models.
- Utilized Python frameworks for computational problem-solving, incorporating matrix operations and finite difference schemes to craft partial differential equations.
- Integrated symbolic software, including Mathematica, to optimize symbolic algebra, calculus, numerical analysis, and data visualization within physics simulations.

### Ford Motor Company

Dearborn, MI

Systems Engineering Intern

May 2023-August 2023

- Work with the Supply Chain Digitization team to construct a new software based system for Ford to conduct supply chain assessment to aid in forecasting and optimize logistics operations.
- Created Python scripts to construct a data pipeline through GCP allowing successful data migration of over 1.5TB of data from Ford's internal database to E2open software.
- Crafted SQL scripts to construct ticketing UI that retrieved performance requests from application to Ford's internal support structure.
- Applied various testing tools such as Postman to develop comprehensive API and UI tests, successfully identifying and mitigating 50+ potential issues, enhancing system reliability by 35%.

### Ford Motor Company

Dearborn, MI

Software Engineering Intern

June 2022-August 2022

- Developed Javascript scripts to construct/alter numerous Agile applications for Ford's Plan and Integrate team.
- Utilized various DevOps applications, including Grafana and Jenkins, to customize the UI presentation for vendors, incorporating graphs and pipelines improving project monitoring up to 15%.
- Altered numerous repositories to up-to-date build process employing a Git-centric approach with systematic branching, version tagging, and submodules for efficient dependency management.

## PROJECTS

### Financial Manager

- Implemented full stack financial application, leveraging Flask for processing financial/transactional operations and real-time balance updates while processing user's financial patterns.
- Constructed UI implementing HTML, allowing users to interact seamlessly with the front-end features to see real-time updates to account balance with access to financial activities for responsible spending.

### WarCraft

- Developed a full-stack video game allowing users the possibility to create/expand an army of various personas, each built with various characteristics for battle against a skilled-based bot.
- Implemented a Qt front-end framework to allow players to visually control/build their army and a C++ backend to store data regarding the users current strength and constantly update the bots inventory proportionally to the users army.

## Skills

**Programming:** C, C++, Python (Data Analysis, Web Development), SQL, Flask, HTML, JavaScript, QT Framework, Mathematica, ARM Assembly, MATLAB (Numerical Computing)

**Tools:** PyCharm, Eclipse, Jupyter Notebook, Git, React, Agile (Scrum), GCP, VS Code, Jenkins, Rally, Grafana, Postman