





# Prathit Shukla

in prathitshukla  prathits012  prathits012.github.io  prathit@umich.edu  347-651-5353

---

## EDUCATION

**UNIVERSITY OF MICHIGAN – ANN ARBOR**  
**Bachelor of Computer Science (Dean's List) | Minor in Business**

**Sept 2018 - Dec 2021**  
**GPA: 3.80/4.00**

**Coursework:** Data Structures and Algorithms, Software Engineering, Deep Learning, Operating Systems, Web Systems, Machine Learning, Computer Security, Computer Architecture, Business Operations, Marketing

**Clubs/Teams:** Michigan Autonomous Aerial Vehicles, Bursley Multicultural Council, IEEE, Science Olympiad

## SKILLS

**Programming:** C++, C, Python, Flask, PyTorch, Java, JavaScript, React, R, React-Native, MATLAB, Go, SQL

**Tools:** Git, Visual Studio, Linux, Jenkins, AWS, Bash, IntelliJ, Vim, Agile, Jira

## WORK EXPERIENCE

**CAPITAL ONE FINANCIAL – Software Development Intern**

**Jun - Aug 2021, Jun - Aug 2020**

**Skills:** AWS, Java, Python, Jenkins, CI/CD, Maven, Acceptance Testing, Git, Jira

- Consolidated the internal Java-based Spark and Hive frameworks to support a streamlined input structure and decreased the conversion time of metrics stored in Amazon S3 from 1-3 days to 1-3 hours for the two engines
- Migrated numerous applications to Jenkins using Pipeline-as-Code method to automate production builds, decreasing the release time from days to hours
- Streamlined future application migration by creating a Python script that generates a Jenkinsfile based on the repository pattern, saving days of developer time

**TECHLAB AT MCITY, INNOVIZ – Software Development Intern**

**Jan - Dec 2020**

**Skills:** Python, Rest APIs, Serialization, ROS, Linux

- Implemented a smart traffic controller that uses Innoviz LiDAR to automatically detect pedestrian behavior and control traffic infrastructure to improve intersection safety
- Successfully integrated LiDAR hardware with Seoul Robotics perception software and used the MCity infrastructure API to simulate real time data transfer from intersections

**XOPS, INC – Software Development Intern**

**Jun - Aug 2019**

**Skills:** JavaScript, React, Git, Node.js

- Developed front-end functionality using React, allowing clients to export their application performance metrics in xSUM, a website/product performance tool
- Documented and solved issues with setup and compatibility of the development environment across different systems, decreasing the setup time for software teams and new users

## PROJECTS

**SPOTIFY DAILY**

**Skills:** Python, Web Scraping, BeautifulSoup, Rest APIs, Flask

- Scraped daily Top 50 Songs charts along with each song's audio features from Spotify and lyrics from Genius to gain insightful analytics and changes in listening patterns
- Currently working to implement a web application to display daily analytics along with historical data in a dashboard similar to Spotify's End of Year Wrapped

**MAP REDUCE SEARCH ENGINE**

**Skills:** Python, Multi-Threading, TCP/UDP, Sockets, Flask, Rest APIs, AWS

- Built a custom MapReduce framework with TCP/UDP sockets to distribute tasks to workers and implemented fault tolerance with heartbeats
- Utilized a custom MapReduce pipeline to create an inverted index to evaluate PageRank of Wikipedia articles and hosted the web application and Rest API on AWS EC2

**NBA PLAYER IMPACT: AN ML APPROACH**

**Skills:** R, Data Mining

- Benchmarked the effectiveness of tree-based models, SVM, shrinkage, and KNN in R to rank NBA player's annual output based on dimensionally reduced player/team statistics
- Predicted season awards, such as Most Valuable Player, based on our ranking and discovered certain biases from the media's award selections