Misha Burnayev

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Career Objective

First-year master's software engineering student at George Mason University looking for positions as a Software Engineer or Machine Learning Engineer to find innovative solutions to contemporary issues for a greater future.

Education

George Mason University ***Fairfax, VA***
Masters of Science, Software Engineering **August 2024 - Present**
Bachelors of Science, Computer Science **August 2020 - May 2024**

Skills and Proficiencies

Languages: Python, Java, C/C++, Dart, HTML, CSS, JavaScript, TypeScript, YAML, CMake
Development Tools: Git, Flutter, Firebase, AWS, GCP, OCI, PyTorch, Tensorflow, Docker, Kubernetes, Jenkins, Node.JS, Next.JS
Practices: Software Design and Specifications, Software Architecture, SAFe/Agile, TDD

Work Experience

ST Engineering iDirect | *Software Engineering Intern* **May 2024 - August 2024**

- Debugged and ported a shell script retrieving many proprietary **FPGA** module statistics into its own **C++** command as part of a larger command library that was built using **Jenkins** and deployed using **Docker** and **Kubernetes**
- Updated **UI/UX** components and added **DVB-S2X** configurability to a major product line's commissioning wizards
- Did multiple binary searches through **150+** package releases to find and fixed a critical issue where restarting a top level program resulted in several cascading process failures

George Mason University | *Undergraduate Research Assistant* **May 2022 - May 2023**

- Developed **machine learning** models using the FOMO algorithm in conjunction with blob detection algorithms
- Created "light detection" algorithms in **Python**, trained to detect reflective objects using photonics principles
- Helped write a **C++ Socket** program that would livestream what a remote blimp sees to our "ground control" so we could monitor the live performance of our **YOLO object detection** implementation

George Mason University | *CS / DS Undergraduate Teaching Assistant* **August 2021 - December 2023 / August 2022 - July 2024**

- Supervised in-person lab sections, taught fundamental programming concepts and language-specific principles for **Python**, **Java**, **C**, and **R**, and handled assignment grading

Projects

Personal Website **November - December 2024**

- Created a **NextJS** web app that nicely portfolios everything listed here, designed with a GitHub actions to automatically build and deploy the app to Firebase using **Firebase Hosting**

CF3K **August - December 2024**

- Developed a multicomponent system that uses a Raspberry Pi 4B with a motion detection script that records a video if my cat passes in front of it and pushes the video to a **Firebase Cloud Storage Bucket**. Recordings can then be retrieved by logging in through **Firebase Authentication** and viewed in a custom-built cross-platform **Flutter** application
- Revamped this project to use a **PyTorch image classifier** for more consistent and accurate detection
- Achieved **50+** users in the first couple weeks once publicly deployed with **20+ recurring** users

Exploratory Projects

- In the span of a weekend, developed IFGDB, a JS Discord bot that automatically connects to play audio **October 2024**
- Wrote LOLCODE server and client and implementations that communicate over TCP **Spring 2023**

Curricular Projects

- Created **anonymous FTP** server and client programs, capable of supporting numerous concurrent socket connections while providing full upload/download capabilities with progress resumption
- Created a **Python DNS** client from scratch that would build and send queries to a Google DNS server for IP address translation
- Led a team in **CI/CD** planning, development, testing, and deployment of a semester-long project over the course of 10 sprints of a multi-platform list-sharing **Flutter** application using **Agile methodologies**