

Michael Maggione

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EDUCATION

Colorado School of Mines | Computer Science B.S.

Exp: May 2024 | GPA: 3.81

Honors: Verizon C-MAPP Scholar, MURF Scholar, Dean's List

Relevant Coursework: Data Structures & Algorithms, Computer Organization, Database Management, Artificial Intelligence, Introduction to Data Science, Software Engineering, Discrete Mathematics

Technical Languages: *Experienced in* - Python, Java, C++, HTML, CSS | *Familiar with* - C, JavaScript, TypeScript

Tools/Frameworks: Pandas, Git, Flask, Tensorflow, Scikit-Learn, AWS, PostgreSQL, MongoDB, Docker, Vue.js

WORK EXPERIENCE

Software Engineer Intern at CACI

Internship | May 2023 - August 2023

- Built an internal full-stack web application using **Python, HTML, CSS, and Typescript** with a **Vue.js** framework, to conduct **5G** and **LTE** surveys on commercial modems.
- Implemented a robust backend by creating **REST API** endpoints using **Node.js, Express.js, and MongoDB** to efficiently store and manage cellular network data.
- Reduced survey band scan runtime from 30 secs to 3 secs by utilizing new engineering AT commands.
- Created a testing infrastructure through **Docker**, unit tests, and by integrating a **CI/CD pipeline** with GitLab.

Mines Undergraduate Research Fellow at Colorado School of Mines

Part-time | May 2022 - May 2023

- Safeguarded users' personal data from being leaked on a remote server by locally implementing neural network models like Mask R-CNN to IoT video data, investigating the efficiency of different on-device models.
- Compared the performance of on-device object detection with on-server object detection by leveraging a **Raspberry Pi** and **AWS**. Simulated top commercially available cameras by using **TensorFlow** and **Python**.

Technology Intern at Poly

Internship | June 2022 - Aug 2022

- Developed an internal front-end tool to enhance communication and streamline innovative ideas between engineers and the Executive Management team.
- Created an app with **Python's Tkinter** Library that allows multiple designated endpoints to quickly connect to a video conferencing room under the control of a single host, reducing company meeting times by **50%**.
- Assisted in performance optimization of the company's video devices by conducting cross-platform analysis of the video and sound quality from various competitors' equipment using **Pandas** and **Matplotlib**.

PROJECTS

Web M.D+

- Developed a medical app that enables users to pinpoint their existing illnesses based on current symptoms.
- Executed efficient queries that retrieve and transit disease/symptom data using **Python** and **PostgreSQL**.
- Predicted user's disease by applying random forest classification on a training dataset with **Scikit-Learn**.

Budget Buddy

- Created an open-source financial web application that manages, alerts, and visualizes users' spending patterns by analyzing their purchases and desired budget goals.
- Worked **Full-Stack** by creating the website's front-end using **HTML, CSS, and JavaScript**, while simultaneously overseeing the back-end by utilizing the **Flask** framework in **Python** to navigate between web pages.
- Designed a relational database with **PostgreSQL** to effectively store and manage incoming user data.