MICHAEL ELROD

Developer ~ Researcher

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SUMMARY

A dynamic developer passionate about AI and with practical experience in developing scalable applications. Completing a bachelor's degree in computer science and preparing for a master's thesis aimed at leveraging AI to address real-world challenges. Aiming to contribute to cutting-edge projects while furthering my expertise through continuous learning

SKILLS

Languages
Python, C/C++, Java, HTML/CSS, TypeScript

Tools
PyTorch, AWS, API, Flutter, Scikit-learn, Matplotlib

EDUCATION

2020 - 2024 — **B.S. in Computer Science** — **Clemson University**
GPA 3.5

2023 - 2025 — **M.S. in Computer Science** — **Clemson University**
Focused on AI and Machine Learning

PROJECTS

Research& Development — **Autonomous Drones** — **GitHub Link**
Partnering with another graduate student on a university-funded research project to explore the use of autonomous drones for identifying and pollinating flowers, leveraging AI technology and Python

Research& Development — **AI & Machine Learning** — **GitHub Link**
Exploring various machine learning paradigms including supervised, unsupervised, and reinforcement learning, alongside model evaluation, using Python and various data visualization libraries

Application Development — **Cloud Computing** — **GitHub Link**
Collaborated on a RESTful API for an app's review section, using JavaScript, and hosted on AWS. Deployed and monitored cloud infrastructure on AWS, using non-relational databases, Lambda functions, and AWS CLI

Application Development — **User-Focused Software** — **GitHub Link**
Designed and implemented two custom 2D game engines utilizing C++/Lua and Python. Developed my website to exhibit my portfolio, employing JavaScript, HTML/CSS, and Firebase to automate updates via GitHub

EXPERIENCE

2023 - CURR — **Clemson University** — **Graduate Researcher**
- Partnering with a graduate student on a university-funded research project to explore the use of multi-agent reinforcement learning for automating drone flight paths and activities. This project leverages AI technology and is implemented in Python
- Utilized Pygame and Matplotlib to create simulations, visualize drone activity, and present data analysis
- Aiming to integrate computer vision technology for transitioning the project from simulation to real-world application

2023 - 2024 — **Naval Information Warfare Center** — **Software Developer**
- Collaborated with the Naval Information Warfare Center and the Blue Ridge Innovation and Entrepreneurship Foundation to create a STEM-focused educational mobile app, aimed at providing local students from under privileged communities, who may lack technological resources, with an accessible learning platform
- Engineered the back-end API for the application and admin portal using AWS CLI, AWS SAM, Typescript, and Postman
- Designed the front-end mock up of the application using Figma in collaboration with BRIEF

2023 - 2023 — **BlueCross BlueShield SC** — **Software Developer**
- Worked on the Contact Center Technology team creating and maintaining new features for their clients' contact centers using Java and other proprietary software
- Developed a Python script to identify and delete unused objects from the company's database, resulting in enhanced system performance through reduced memory usage