Zackary Amo

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science: Artificial Intelligence Track
Expected August 2025
Cumulative GPA: 3.96/4.0
Relevant Coursework: Machine Learning, Artificial Intelligence, Computer Vision, High Performance Computing, Intelligent Mobile Robotics, Distributed Systems, Operating Systems, Systems Programming, Design & Analysis of Computational Algorithms, Programming Languages

Polytechnic Institute of Technology, State University of New York
Bachelor of Science in Computer Science — *May 2023*
Bachelor of Science in Applied Mathematics, Minor in Physics (30 credits) — *May 2023*
Cumulative GPA: 3.96/4.00 | **President's List:** Fall 2019 – Spring 2023
Awards: Dean's Award from the College of Arts and Sciences, Academic Excellence Award from the Mathematics and Physics department, Mathematical Elegance Award from the Mathematics and Physics department

TECHNICAL SKILLS

Languages: Java, JavaScript, TypeScript, Python, C++
Development: Git, React, Redux, Restful APIs, Scrum, Spring Framework, Jest, JUnit, Cypress
Machine Learning: OpenCV, TensorFlow, PyTorch, NumPy, SciPy, Scikit-learn, Keras, Colab, Neural Networks, Model Optimization

PROFESSIONAL EXPERIENCE

BAE Systems Inc. — **Rome, NY**
Software Engineer II — *June 2023 - Present*
- Worked with the R&D team to integrate an algorithm for constant time spatial searches
- Working with R&D team to integrate a normalcy modeling statistical model for anomaly detection
- Maintain and extend the current data model
- Work with CI/CD pipelines in Azure DevOps
- Help review and verify PRs
- React UI development in TypeScript and JavaScript
- Test-driven development with Jest, JUnit, Cypress
- Service development in Java
- Leading Agile

BAE Systems Inc. — **Rome, NY**
Software Engineer Intern — *May 2022 - June 2023*
- Worked on full-stack bugs and small features for a geospatial software application
- Learned React UI development and TypeScript from scratch
- Service development in Java
- Agile Scrum

PROJECT EXPERIENCE

Video Anomaly Detection — *June 2024*
- Attempt to reproduce the results of the paper "Learning Normal Dynamics in Videos with Meta Prototype Network" from the CVPR conference
- Developed and trained an autoencoder with an integrated dynamic processing unit for real-time normalcy encoding
- Wrote a critique of the theoretical aspects of this paper
- [zamo2025/video-anomaly-detection (github.com)](github.com)

Gravitational Field of an Elliptical Mass Distribution — *December 2021 - March 2023*
- Modeled the gravitational field of an elliptical mass distribution using analytical methods and numerical techniques
- Numerical analysis and data visualization was coded in Maple
- [zamo24/Gravitational_Field_of_Elliptical_Mass_Distribution (github.com)](github.com)

Diabetic Retinopathy Detection Web App — *February 2023-April 2023*
- Developed a web application that allows the user to upload a retinal image of the eye, the image is then sent to a neural network model that I trained to detect diabetic retinopathy and its severity (none, mild, moderate, severe, proliferate). The output of the neural network is then sent to the UI and displayed to the user
- Trained VGG19 pretrained neural network on a Kaggle dataset of 35,000 retinal images of the eye
- [zamo24/Diabetic_Retinopthy_Detection_Web_App (github.com)](github.com)