

Ethan Phan

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EDUCATION

University at Buffalo, The State University of New York

August 2021 – December 2024

Bachelor of Science in Computer Science

GPA: 4.000

- Honors: Pride of New York Scholarship, Dean's List
- Relevant Courses: Software Engineering, Algorithms and Complexity, Web Applications, Modern Networking Concepts, UNIX Systems Administration, Intro to Artificial Intelligence, Intro to Machine Learning

EXPERIENCE

Research Assistant (Student Programmer)

August 2024 – Present

Network Science Institute, Northeastern University

Remote

- Utilize Natural Language Processing (NLP) techniques to analyze data, investigating the causes of misinformation spread among older adults on Facebook.
- Develop a Python and Selenium-based system to automatically scrape data from 100+ Facebook users on a Google Sheet using the Google API.
- Store scraped data in a MySQL database via API endpoints on a Flask server hosted on a cloud platform.

Teaching Assistant

August 2022 – December 2024

School of Engineering and Applied Sciences, University at Buffalo

Buffalo, NY

- Instruct 600+ students on topics including Data Structures, Societal Computing, and Discrete Mathematics.
- Lead four 1-hour recitations, address over 50 student questions, and hold 5+ hours of office hours each week.
- Evaluate assignments and deliver feedback to enhance student understanding of material and performance.
- Identify course improvement areas and provide actionable recommendations to enhance structure and engagement.

Technology Intern

June 2023 – August 2023

M&T Bank

Buffalo, NY

- Streamlined deployment by integrating Docker into GitLab pipelines for 200+ .NET web applications.
- Led project design, enhancing performance and sustainability, resulting in \$500,000 in annual savings for the bank.
- Obtained expertise in Docker, YAML, Angular, C#, and .NET by developing a robust CI/CD pipeline and web application.
- Recognized and awarded for demonstrating exceptional communication and teamwork, ensuring project success.

PROJECTS

Convolutional Neural Network | *Python, PyTorch, NumPy*

- Designed and implemented a Convolutional Neural Network (CNN) in PyTorch to classify handwritten digit images, achieving 98.27% accuracy.
- Improved model performance using Stochastic Gradient Descent (SGD) and compared results across batch sizes to evaluate training efficiency.

Productivity Management Platform | *Angular, TypeScript, SCSS, Express.js, MongoDB*

- Engineered a penguin-themed productivity web application that incentivized task competition and study sessions.
- Created a user-friendly front end with 25+ reusable components and built a RESTful API for user authentication and data management.

Penguin Reinforcement Learning | *Python*

- Developed a reinforcement learning framework using SARSA, Q-Learning, and Double Q-Learning for environmental navigation insights.
- Optimized algorithms through hyperparameter tuning across 10,000+ episodes and visualized results with pandas, NumPy, and Matplotlib.

TECHNICAL SKILLS

Languages: Python, C/C++, C#, Java, JavaScript, HTML/CSS

Web Development: Angular, React, SCSS, Tailwind CSS, TypeScript, Express, .NET, Flask

Technologies & Tools: UNIX, Git, GitHub, GitLab, Node.js, MySQL, MongoDB, Docker

Product Management Tools: Trello, Jira, Confluence