Timothy Wu

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EDUCATION

Carnegie Mellon University   **Pittsburgh, PA**
M.S. in Artificial Intelligence Engineering (Electrical and Computer Engineering)   *Expected May 2026*
Virginia Polytechnic Institute and State University - GPA: 4.0/4.0   **Blacksburg, VA**
B.S. in Computer Science and Minor in Mathematics   *August 2020 - May 2023*

TECHNICAL SKILLS

Programming Languages: Python, Java, C, MATLAB, Go, R
Machine Learning & Data Science Libraries: PyTorch, Tensorflow, Sklearn, Pandas, Numpy, SpaCy
Cloud Native Technologies: Kubernetes, Docker, Helm
Software Development Tools: Git, GitLab, Linux, Visual Studio Code, Jira

CERTIFICATIONS

Certified Kubernetes Application Developer - Issued July 2022
Certified GitLab Associate - Issued May 2022

WORK EXPERIENCE

AI/Machine Learning Research Engineer
Lockheed Martin - Herndon, VA   *June 2023 - Present*

- Researching prompt engineering and finetuning methods to improve the performance of open-source large language models to better decompose text statements.
- Improved the accuracy of the large language model to decompose text by an average of 30% compared to five different natural language processing models.
- Utilizing Python Flask to create accessible endpoints to query the large language model service.

NSF Funded Undergraduate Researcher
InfoVis Lab - Blacksburg, VA   *February 2022 - May 2023*

- Streamlined the team's Jupyter Notebook to allow easier user access for adding custom dimension reduction algorithms and customizing algorithm parameters.
- Created a Jupyter Lab plugin using TypeScript to display cells in a 2D format for faster code comparisons.
- Research Work: https://github.com/TomWoah123/AndromedaJupyter-2.0

Software Engineering Intern
CACI International - Ashburn, VA   *May 2022 - August 2022*

- Designed a landing page web application using ReactJS and GatsbyJS technologies.
- Configured GitLab CI pipelines to build the web application using Docker and deploy to AWS Elastic Container Registry and GitLab Pages.
- Created dashboards using Power BI to better visualize incident and management data.
- Served as the scrum master managing eleven other interns working in an Agile environment with bi-weekly sprints.

Cloud Engineering Intern
Zeta Associates Incorporated - Fairfax, VA   *May 2021 - August 2021*

- Designed a reliable failover system that would migrate stateful resources across Kubernetes Clusters using Velero and MinIO.
- Programmed shell scripts to automate the migration process based on Prometheus metrics.
- Collaborated with two other interns to deploy, network, migrate, and monitor full-stack applications across a network of Kubernetes clusters.

PROJECTS

- **Handwritten Digit Recognition:** Programmed two different machine learning algorithms (Naive Bayes and Multilayer Perceptron) using only mathematical knowledge and NumPy to predict handwritten digits. https://github.com/TomWoah123/CS4824-FinalProject
- **AES Cryptography Project:** Recreated the AES Cipher algorithm using only mathematical knowledge and Python to encrypt and decrypt hexadecimal text. https://github.com/TomWoah123/Cryptography-Project