Andrew Xu

Rockville, MD | andyxu55@terpmail.umd.edu | Linkedin: andrewyexu | (240)-789-3987 | Github: AndrewXu55

EDUCATION

University of Maryland, College Park (UMD)   **College Park, Maryland**
BS in Computer Science, BS in Economics   *Expected Graduation, May 2027*
- **Honors College:** Gemstone, **GPA:** 3.937/4.0, Dean's List
- **Related Coursework:** Object Oriented Programming, Discrete Structures, Introduction to Computer Systems, Organization of Programming Languages, Algorithms, Multivariable Calculus, Linear Algebra, Probability Theory, Data Science, Artificial Intelligence, Machine Learning, Computer Vision, Econometrics
- **Awards:** The Dean's Scholarship at UMD, Johns Hopkins APL STEM Academy Scholarship

TECHNICAL EXPERIENCE

Capital One   **McLean, Virginia**
Software Engineer Intern   *May 2025–Aug 2025*
- Engineered real-time digital enrollment data pipelines for Google Autofill (GAF) integration using object-oriented Python, AWS SQS, and Lambda, boosting user event processing efficiency to 500K+ events weekly.
- Designed and deployed a scalable event orchestration layer with Python and AWS Lambda to filter, transform, and route streaming data to DynamoDB, improving the overall system performance to less than 15 seconds of processing.
- Built a React.js and Next.js web application for student-mentor matching as part of a 6-member team, improving user engagement and matchmaking efficiency

International Consulting Associates (ICA)   **Arlington, Virginia**
Data Scientist Intern   *May 2024–Aug 2024*
- Created a document processing model with Python computer vision libraries (Deepdoctection and FiftyOne) and a Tensorflow Natural Language Processing model to analyze OpenFDA Documents for fraud detection
- Designed and deployed a data pipeline with Terraform using AWS cloud-based tools that optimized data integration from multiple sources and platforms in an Agile Methodology
- Developed a custom Python API using FastAPI to serve and filter over 5 million device recall entries through optimized data processing and Docker deployment

AI4ALL Ignite Program   **Remote**
Machine Learning Engineer   *Jan 2024–May 2024*
- Collaborated in a team of 4 exploring advanced AI topics and developing an AI/ML project through an 8-week course
- Trained and optimized a convolutional neural network in Tensorflow to detect fraudulent insurance claims from vehicle damage images, achieving an 0.893 accuracy
- Developed and deployed a Flask-based website allowing users to upload images to the model and receive a prediction of whether the claim is fraudulent

PROJECTS

Robot in Dynamic Environment (RIDE) Research Project   **College Park, Maryland**
Research Team Leader   *Jan 2024-Present*
- Developed a proposal on creating robots that can adjust to a dynamic environment and navigate to moving targets
- Presented the proposal to the research program leaders and stakeholders, resulting in its selection as one of the 10 finalists out of 49 proposals for implementation
- Led a cohesive team of 11 to research cutting-edge multi-robot navigation and communication technologies
- Writing an introductory robotics textbook focusing on topics such as object detection, deep learning, and navigation to guide other group members and teach future learners

Diagnosed Erythemato-Squamous Diseases using Patient Features   **Rockville, Maryland**
Machine Learning Engineer   *May 2024-August 2024*
- Developed a Softmax Regression model that diagnoses patients with a class of Erythemato-Squamous disease using patient clinical and histopathological features with a 0.972 accuracy
- Created data visualizations using Pandas, Matplotlib, and Seaborn to identify key trends and imbalances in the data for Data Cleaning and Feature Engineering, improving the model accuracy by 15%

SKILLS

Technology: Python, Java, MATLAB, Linux, Git, C, C#, R, Assembly, Julia, Swift, OCaml, Terraform, Rust, SQL
Tools: VS Code, Docker, Excel, Repl-it, PyCharm, Android Studio, RStudio, Xcode, Anaconda, AWS CLI