Ethan Lott

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EDUCATION

University of Maryland, College Park — College Park, MD
Bachelor of Science in Computer Science, Minor in Philosophy — *Aug. 2021 – May 2025*

Community College of Baltimore County — Catonsville, MD
Associate of Science in Computer Science — *Jan. 2020 – Dec. 2020*

EXPERIENCE

Undergraduate Researcher — Feb. 2023 – Present
NeuroTheory Lab @ UMD — *College Park, MD*
- Designed and trained computational models to simulate individual neurons in the primary visual cortex, utilizing time-series neural spike data.
- Implemented convolutional neural networks (CNNs) using PyTorch and TensorFlow to predict neural responses based on sensory input data.
- Applied machine learning frameworks like scikit-learn and deep learning libraries to optimize model performance and analyze neural dynamics.
- Utilized scientific computing libraries such as NumPy and SciPy for data preprocessing and numerical analysis.
- Created visualizations of model outputs and data patterns using Matplotlib to communicate results effectively.
- Collaborated on refining models by integrating experimental data and improving prediction accuracy through iterative testing and evaluation.

Summer Intern, Data & AI CoE — June 2024 – Aug. 2024
Washington Metropolitan Area Transit Authority — *Washington, DC*
- Completed a proof-of-concept implementing an LLM for the purpose of contract comprehension, i.e. extracting warranty information.
- Prepared and orated a formal proposal presentation justifying the LLM project to upper leadership.
- Designed and produced Power BI dashboards presenting analysis of a variety of transit metrics.

eLearning Developer — Feb. 2021 – June 2022
Hendall, Inc. — *Rockville, MD*
- Developed engaging and interactive eLearning modules for federal government employees using Articulate Storyline 360.
- Supported Instructional Systems Designers (ISDs) with design and development of classroom courses, online courses, and webinars.
- Implemented JavaScript to improve functionality and interactivity of modules.

PROJECTS

DineUMD | *Xcode, Swift, SwiftUI, SwiftSoup, JSON, Git* — March 2024 – Present
- Currently developing an iOS application dedicated to providing up-to-date information about food availability on the UMD campus.
- Implemented a web-scraping algorithm to acquire daily dining hall menus the UMD website.
- Designed and developed a seamless UX for intuitive access to information and application navigation.

Efficient Parking Simulation | *Python, Gymnasium, NumPy, PyGame, OpenCV, Git* — Jan. 2024 – May 2024
- Developed a Q-Learning AI model to simulate the task of finding a parking spot in a crowded parking lot.
- Designed a visualization of the simulation to allow for intuitive display of the optimal path chosen.
- Led a presentation on the real-world applications and justifications for this technology.

TECHNICAL SKILLS

Languages: Java, Python, C, Swift, SQL, JavaScript, HTML/CSS, R, MATLAB
Developer Tools: Git, VS Code, Eclipse, Command Line, LaTeX
Libraries: pytorch, tensorflow, scikit-learn, pandas, NumPy, SciPy, Matplotlib