CARTER WEAVER

carterw@andrew.cmu.edu • 26 N Moore Street, New York, NY, 10013 • (917) 951-1227
Linkedin: linkedin.com/in/carter-weaver • Github: github.com/carterw16

Education

Carnegie Mellon University   **Pittsburgh, PA**
Bachelor of Science, Electrical and Computer Engineering - **GPA:** 3.72/4.0   *2020 - 2024*

- **Relevant Coursework** - Distributed Systems 15-440, Web Application Development 17-437, Hardware Arithmetic for Machine Learning 18-340, Introduction to Machine Learning 10-301, Principles of Software Construction 17-214, Introduction to Computer Systems 18-213, Principles of Imperative Computation 15-122, Structure and Design of Digital Systems 18-240, Electronic Devices and Analog Circuits 18-220

Master of Science, Electrical and Computer Engineering (focus in Machine Learning)   *2024 - 2025*

- **Languages and Tools** - Python, C++/C, C#, Java, Javascript, Go, PHP, SQL, Django, ReactJS, HTML, CSS, AWS, SystemVerilog, MATLAB, NumPy, TensorFlow, PyTorch, computer vision, data analysis

Work Experience

Research Programmer | Auton Lab   **Pittsburgh, PA**
Carnegie Mellon University's AI and Robotics Lab   *July 2023 – Present*

- Performed comprehensive literature reviews to identify gaps in existing automated machine learning (AutoML) technology and guide new research proposals
- Developed an AutoML pipeline (ngAutonML) to automate the search for plausible predictive models, handling processes like data featurization, model training, and hyperparameter tuning behind the scenes.
- Developed an evaluation framework: Assessed performance of ngAutonML on a wide range of OpenML tasks compared with state-of-the-art tools (TPOT, H2O)

Skills: Python, Sklearn, NumPy, Matplotlib, Git, Microsoft Office, Data Science, Machine Learning

Software Engineering Intern | Evercore Technology Partners   **Remote**
Web and software development startup based in St. Louis   *August 2022 – January 2023*

- Designed custom web applications and databases for a range of small businesses.
- Developed and maintained frontend and backend of web applications using Laravel's PHP framework

Skills: PHP, Javascript, HTML, CSS, Bootstrap

Projects

HockeyVision   *June 2023 – August 2023*
Player tracking tool using computer vision and deep learning with a custom web interface

- Trained object detection (YOLOv8) and tracking (DeepSort) models on hockey game videos to identify and track distinct players using k-means clustering
- Developed a web application with Django and React to upload games to a PostgreSQL database (with S3 video storage) and perform player tracking analysis

PyTorch Image Classification   *April 2023 – May 2023*

- Trained a convolutional neural network to classify images as cats or dogs using PyTorch
- Plotted loss and accuracy trends on a validation data set using matplotlib

Data Visualization Web Framework   *Jan 2023 – April 2023*

- Designed and implemented an extensible data analysis framework using Java to interface with WeatherAPI
- Built an interactive GUI tool using React to visualize data via customizable graphing plugins

Activities & Interests

- Ice Hockey, Running, Piano, Surfing