

Emma Azzi

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EDUCATION

University of Massachusetts, Amherst | B.S in Computer Science and Data Science, Minor in Economics **May 2025**

Member of Commonwealth Honors College | Dean's List (Fall 2021, Spring 2022, Spring 2023) | **GPA: 3.7/4.0**

- Honors and Awards: Hack(H)er413 "Best Use of an AI Model", Dean's Scholarship Award, ALAA scholarship recipient
- Activities: UMass Club Soccer (A team), CICSof, Machine Learning club, Arab Cultural Association

COURSEWORK

Algorithm Design, Data Structures, Programming Methodologies, Reasoning Under Uncertainty, Mathematical Proofs: A Computer Science Perspective (H), Calc I/II/III (H), Intro to Computation (Discrete Math), Computer Systems Principles, Statistics I, Differential Equations, Intro to Linear Algebra, Intro to Microeconomics, Intro to C Programming Language

EXPERIENCE

Undergraduate Course Assistant

Amherst, MA

Manning College of Information and Computer Sciences

Dec. 2022 - Present

- Proctor and grade assignments for weekly class sessions of 200+ students
- Host weekly Office Hour sessions to answer students' questions and cater to educational needs
- (Fall 2023) Currently serving as UCA for CS110: Foundations of Programming: introduction to fundamentals of computing and programming using Python
- (Spring 2023) Served as UCA for CS187: Programming with Data Structures: design, use, and analysis of important data structures, as implemented in the Java programming language

Undergraduate Research Volunteer

Amherst, MA

Manning College of Information and Computer Sciences

June 2023 – August 2023

- Investigated the transformative capabilities of smart home technology for carbon emission reduction
- Identified and compiled a list of prevalent households IoT devices that can significantly contribute to carbon reduction and pinpointed those with the most pronounced potential
- Designed and implemented a Python-based algorithm using the Pandas library and Jupyter Notebook to calculate household carbon footprints from energy usage data.

Academic Peer Tutor

Amherst, MA

Learning Resource Center

May 2022 – Jan 2023

- Provided students with individualized course-specific academic support for COMPSCI 121, COMPSCI 187, MATH 131
- Offer support to over 5,000 peers and demonstrate skills such as listening, critical thinking and knowledge assessment

PROJECTS

ASL (ArtificialSignLanguage)

****Nominated "BEST USE OF AN AI MODEL" by Travelers Insurance****

- Implemented a computer vision and deep learning system to recognize and classify hand gestures into their corresponding ASL signs using convolutional neural networks (CNNs).
- Trained the model on a dataset of ASL signs using Keras an open-source neural network library through Google Teachable Machine
- Skills: Python, TensorFlow, Computer Vision, Deep Learning, Keras, Git, Collaborative Development

VerifAI: Fake News Detector

- Designed a web-based application to detect and analyze intentionally misleading news using advanced NLP techniques
- Integrated the BERT model with transfer learning and enhanced its efficiency by fine-tuning it on specific datasets related to news and misinformation
- Optimized model by implementing batch processing and a custom 'BERT_Arch' neural network for binary classification.
- Implemented the SoftMax function in BERT's output layer to quantify fake news likelihood as percentages.
- Developed a user-friendly interface using Flask and HTML, ensuring easy accessibility

SKILLS

Languages (by level of comfort): Java • JavaScript • Python • C/C++ • HTML/CSS

Developer Tools and Environments: Git • Node.js • LATEX • Visual Studio • Vim • Jupyter Notebook

Frameworks: Angular

Libraries: datascience • Pandas • NumPy • Matplotlib • TensorFlow • Keras

Soft Skills: Problem-Solving • Teamwork • Logical Thinking • Communication

Other: Data Structures • Object Oriented Programming • Calculus • Statistics • Trilingual (Arabic, French, English)