Mohammed Mamdouh

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EDUCATION

University of Central Florida/Burnett Honors College — May 2026
Bachelors of Science in Computer Science — *3.7 GPA*
Relevant Coursework: *Data Structures and Algorithms I & II, Object-Oriented Programming & Design, Computer Logic, Cybersecurity, Systems Software, Discrete Math I & II, Calc I & II, Linear Algebra I, Statistics I & II*

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, TypeScript, SQL, Assembly, Go, C#
Libraries/Tools: Numpy, Pandas, Keras, Tensorflow, PyTorch, Scikit-Learn, Seaborn, Librosa, Matplotlib, Jupyter Notebook, Git, Linux, Figma, Google Cloud, Microsoft Products
Technologies: NextJs/React, Svelte, Tailwind, PostgreSQL, NodeJs, ExpressJs, Flask, AWS, Vercel, REST, Prisma, MongoDB, GraphQL, Go-Jet, Clerk

RESEARCH EXPERIENCE

Research Assistant — Feb. 2025 – Present
FData Lab — *Orlando, FL*
- Researched **Graph Neural Networks (GNNs)**, **Graph Convolutional Networks (GCNs)**, and **Large Language Models (LLMs)** for machine learning on **static** and **temporal graphs**.
- Developed models for **node classification**, **link prediction**, and **graph-based knowledge extraction** in dynamic graph settings.

WORK EXPERIENCE

Incoming AI Engineer Intern — May 2025 – Aug. 2025
Universal Creative — *Orlando, FL*

AI Software Developer Intern — Jul. 2024 – Present
Resilience, Inc — *Remote*
- Developed a **Speech and Emotion recognition AI** model to assist K-12 students with mental health learning and understanding
- Increased **model accuracy** by **45%** through **data augmentation**, batch **normalization**, weight adjustment, and audio centered **feature extraction**
- Collaborated to combine new additions to the model and effectively run tests through simulated data and various acted out datasets

Digital Summer Instructor/Tutor — May 2024 – Aug. 2024
iD Tech — *Remote*
- Mentored students on game, chatbot, terminal, and AI project development
- Tutored **30+ kids** aged 9-17 on **programming fundamentals** and **AI/ML concepts**
- Helped redesign and **improve** various **AI course** plans to match modern frameworks and technologies such as **PyTorch and Pandas**

PROJECTS

Simply-ASL | *PyTorch, Flask, Swift, OpenCV*
- Engineered a **Speech to ASL** mobile app using **inference and computer vision**
- Created an **LSTM model** for **intermediate frame generation** using PyTorch
- Processed and created a dataset for real time **2D pose estimation** using inference with **Meta's Sapien model**

Bouquet.Gen | *NextJs, Flask, PostgreSQL, Machine Learning*
- Implemented **OpenAI's** API to create dynamic bouquets based on user input ''
- Developed a full-stack web application with Flask serving as a**REST API** backend and React as the frontend

Campus Involvement

Hackathon Organizer & Project Launch Mentor   Dec. 2024 – Present
Knight Hacks   *Orlando, FL*
- Coordinating and running Knight Hacks (a **600+ attendee** annual hackathon at UCF) with a **20+ person team** to handle logistics, sponsorships, advertising, and event planning.
- Overseeing event operations, including securing sponsors, planning themes, challenges, workshops, prizes, and attendee experiences.
- Mentoring teams in the **Project Launch** program, guiding **20+ AI/ML and Web Development projects** from debugging to implementation.

ACM Website Backend | *NodeJS, ExpressJs, MongoDB, Javascript, HTML*   Jan 2024 – April 2024
- Worked with a large team to develop a backend for ACM's main website
- Created a **CRUD** system to store club events to be used internally and display on the main website
- Implemented a **fully authenticated panel** allowing for a centralized center for club duties improving club efficiency