Yusuf Morsi

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https://github.com/ymorsi7
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Python, C++, Java, C

EDUCATION

University of California, San Diego, Bachelor's of Science
- *Electrical Engineering B.S. (Oct. 2020 - June 2024)*
    - *Depth in Machine Learning and Controls*
    - *Minor in Mathematics*
- *Relevant Coursework:* ECE15 (Accelerated C Programming), ECE16 (Rapid Python Design), ECE30 (Computer Organization), ECE109 (Engineering Probability and Statistics), MATH20A-D (Calculus 1-4), ECE25 (Digital Systems), ECE35/45 (Circuit Analysis)

University of California, San Diego Extension, Certifications
- *Front-End Web Development Certification (Jan. 2020 - Sep. 2020)*
- *iOS Programming Certification (Jan. 2019 - May 2019)*

WORK EXPERIENCE

Software Engineer Intern, Project YLLOW   *Oct. 2021 – Present*
- Developing exclusive social platform where people are only able to add people that they meet in real life by **scanning an NFC chip**. I decided to join this startup for the opportunity to work with NFC chips and mobile app dev. I've also created their new site with **HTML, CSS, JS.**
    - Developing cross-platform app with **Java, React-Native, and Firebase**.

Undergraduate Researcher, UCSD DigiHealth Lab   *April 2021 – Present*
- DigiHealth is a joint research laboratory of UCSD Design Lab and the Jacobs School of Engineering ECE department.
- Working under the guidance of Dr. Edward Wang and his Ph.D. students to develop a **deep learning model** with **MobileNetV2** and for pupil locating and measuring**.**
    - Have written **C++** code for **I2C communication**, **designed circuits** on Eagle, and **soldered** them.

Researcher, Young Engineer Experience, SDSU Experimental Mechanics Lab   *June 2019 – July 2019*
- Under the guidance of Dr. George Youssef, I **researched** the tensile strength of 3D printed ABS ASTM D638 samples versus ASTM D638 samples created with injection molding.

Mathematics Instructor, Mathnasium   *May 2021 – Present*
- I instruct K-12 students in mathematics.

PROJECTS

AI Yusuf Discord Bot with Python (PyTorch)   *Nov. 2021 – Present*
- Used **PyTorch** to interpret transcripts of conversations and build a chatbot using them. The chatbot will input and output messages to Discord.
- With **Python**, I created a separate Discord bot that sorts through conversations in a server that I'm active in and generates transcripts.
- ML code has been created. The project is currently in the data collection phase. When complete, the AI Discord bot will be deployed.

Drowsiness Detection with Python (OpenCV), Arduino, LaTeX   *Feb. 2021 – March 2021*
- In this project, a colleague and I programmed software that detects when the user becomes drowsy and starts to close their eyes before alerting them with a buzzing noise until they open their eyes again.
    - My work includes writing **Python** code that detects eye movement, and writing/editing a report on the project using **LaTeX**.

HC-SR04 Ultrasonic Security Sensor with MATLAB, Arduino, Eagle, Fritzing   *Nov. 2020 – Dec. 2020*
- Two other ECE students and I used MATLAB, an Arduino MEGA, LEDs, a buzzer, an IR remote and receiver, and a DHT11 temperature sensor to create a security device. This device not only detects movement, but also determines whether it's caused by a living being.
    - I worked on **Arduino/C++ code**, the **Eagle** file, and created the **Fritzing** file for this project.

LEADERSHIP / AWARDS

- **CS Foreach Early Start Mentor** (2021 – *Present*)
    - Working with other UCSD students to teach a high school student how to create a website with **HTML, CSS, and JS**.
- **UCSD ECE Undergrad Student Council Mentor** (2021 – *Present*)
    - I meet weekly with first-year ECE students at UCSD to advise them and answer their questions about ECE, classes, and more.
- **AP Scholar**, *College Board*, July 2020
- **Student of Distinction / Student Spotlight**, *UCSD Extension*, July 2020
    - After scoring at the top of my class in my UCSD Extension certification, an article was written about me.
- **President** of high school's **Architecture, Construction, and Engineering Club** in senior year (Member: 2016 – 2020)
- **Scholarship for Electrical Engineering**, *ACE Mentor Program*, May 2020
- **Scholarship for Electrical Engineering**, *ACE Mentor Program*, May 2019

MORE INFORMATION

- Fluent in both English and Arabic
- Holds **MATLAB OnRamp** and **Project Management** certifications
- Experience in **machine learning**, **web and app development**, LTspice, Eagle, Vivado, Fritzing, Multisim