

# Yusuf Morsi

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Python, C++, Java, C

## EDUCATION

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### University of California, San Diego, Bachelor's of Science Degree

- **Electrical Engineering B.S.** (Oct. 2020 - June 2024)
  - *Depth in Machine Learning and Controls*
  - *Minor in Mathematics*
- **Relevant Coursework:** ECE16 (Rapid Hardware & Software Dsgn w/ Python), ECE30 (Computer Architecture), ECE25/35 (Digital and Analog Design), MATH20A-D (Calculus 1-4), ECE109 (Probability/Statistics, Spring '22), CSE11 (Accelerated Programming, Spring '22)

### University of California, San Diego Extension, Certification Programs

- **Android Programming Certification** (Sep. 2021 - June 2022)
- **Front-End Web Development Certification** (Jan. 2020 - Sep. 2020)
- **iOS Programming Certification** (Jan. 2019 - May 2019)

## WORK EXPERIENCE

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### 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 Professor Edward Wang and his Ph.D. students to develop a wearable health device that measures blood glucose levels of the wearer.
  - Wrote **C++** code for **I2C communication**, **designed circuits** on Eagle, and **soldered** them.

### Software Developer, Project YELLOW

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 part-time for the opportunity to work with NFC chips and mobile app development. I also work on their website.
  - Using **HTML**, **CSS**, **Javascript**, **Java**, **Kotlin**, and **Firebase**.

### Researcher, Young Engineer Experience, SDSU Experimental Mechanics Lab

June 2019 – July 2019

- Under the guidance of Professor 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 elementary, middle, and high school students in areas of mathematics up until Pre-Calculus.

## PROJECTS

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### 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

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- **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

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- Speaks Arabic at professional working proficiency
- Holds **MATLAB OnRamp** and **Cybersecurity for Critical Urban Infrastructure** certifications
- Experience in 3D printing, CAD, Eagle, Vivado, Fritzing, Multisim, **web and app development**, and more