

Maria Alabdulrahman

maria.alabdulrahmanips@gmail.com - Dammam, Saudi Arabia

Areas of Interest

- Software Engineering
- Computer Engineering
- Robotics
- Biotechnology

Portfolio Links

LINKEDIN: <https://www.linkedin.com/in/maria-alabdulrahman-843165109/>

GITHUB: <https://github.com/mariaalabdulrahman>

WEBSITE: <https://mariaportfolio.cyclic.app>

Education

- **3.9+/4, Bachelor of Science**, Prince Mohammad Bin Fahd University
 - **Double Major** in **Computer Engineering** and **Software Engineering**
 - ABET Accredited Program
 - Expected graduation date: May 2024
 - Dean's Honor List Student

Experience

June 2022 – August 2022: **Robotics Engineer Intern**, Robotics Lab at Prince Mohammad Bin Fahd University.

Skills/Tools

Electronics and Microcontrollers	Arduino, Raspberry Pi
Web Development	Flask, HTML, JS, jQuery, CSS
Languages	Java, Python, JavaScript
Machine Learning	Pandas, NumPy, PyTorch
Productivity Tools	Word, Excel, PowerPoint, Overleaf

Projects

- **Haptic VR glove for Unity using Arduino**
 - A glove was constructed using IMUs and flex sensors which collected hand movement data
 - The data was fed to a Unity environment, where a virtual hand reflects the hand movement data collected from the glove
 - Events in the game result in haptic feedback on the glove
- **Inventory Management System using Deep Learning (No QR/Barcodes)**
 - Items are recognized by a raspberry pi through a live video feed from a webcam
 - Users can check-in and check-out items. The inventory database is updated accordingly
 - Inventory, stock, check-outs, and user information is displayed on a web application
 - New items can be registered by an admin using the 'Register Item' feature. Images of new items are captured which are used to retrain the deep learning model

- **Simulation-based learning environment for Operating System Algorithms**
 - Web application that displays interactive simulations for Operating Systems algorithms
 - Simulations include Job Scheduling, Memory Page Replacement, Round Robin, etc
- **Electronic Xylophone with LCD using Arduino**
 - A system that is designed to teach beginners how to use a xylophone
 - An array of momentary switches correspond to a note on the xylophone
 - LCD displays the note played by the user
- **Robotics Lab Stock Management Web Application**
 - A NodeJS based server handles GET and POST requests from users that borrow items from the lab
 - Displays stock information of robotics lab
 - Gives controlled access to admins to update stock information

Research

Interests

- Biomedical engineering
- Machine learning
- IoT
- Robotics
- Cybersecurity
- Computer Networks

Publications

- **Alabdulrahman, Maria, et al, “Low Cost and Scalable Haptic VR Glove”, International Conference on Computational Intelligence and Communication Networks, CICN, Dec 2022, Khobar KSA**

Achievements & Awards

- **First Place in IEEE Coding Competition, IEEE (2022)**
- **SDAIA-KAUST Academy Introduction to AI Bootcamp, KAUST (2022)**
- **SDAIA-KAUST Academy Advanced Artificial Intelligence Course, KAUST (2023)**
- **Networking Academy Course Cybersecurity Essentials, Cisco (2022)**
- **Dean’s Honor List, PMU (2021-2023)**
- **International Baccalaureate Diploma, IBO (2020)**

Extra-Curricular Activities

- President of **Undergraduate Research Society, PMU**
- Vice President of **Robotics Society, PMU**
- Secretary of **IEEE Women in Engineering Chapter, PMU**
- Core member of **Google Student Developer Club, PMU**
- Member of **IEEE Robotics and Automation Society**
- Mentor in the **CS1 Help Session Program, Computer Collaro Club, PMU**
- Main-Attack of the **Basketball Team, PMU**
- Executive Board Member of **Model United Nations, IPS**