Lara Alotaibi

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Areas of Interest

- Software Engineering
- Computer Engineering
- Robotics

Portfolio Links

LINKEDIN: https://www.linkedin.com/in/lara-alotaibi-380121242/   **GITHUB**: https://github.com/Larito

WEBSITE: https://larasportfolio.cyclic.app

Education

- 3.6+/4, **Bachelor of Science**, Prince Mohammad Bin Fahd University (PMU)
  - **Double Major in Software Engineering and Computer 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 Mohmamed Bin Fahd University.

Skills/Tools

Web Development	Flask, HTML, JS, jQuery, CSS
Languages	Java, Python, JavaScript
Electronics and Microcontrollers	Arduino, Raspberry Pi
3D Modeling	TinkerCad, Fusion360, AutoCad
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 live video feed from a webcam
  - Users can check-in and check-out items. 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
  - Designed a 3D printed wall mounting case for the system using Fusion360
- **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
- **Web Application for Gym Services Management**

Research

Interests

- IoT
- Robotics
- Cloud Computing
- Machine Learning
- CyberSecurity
- Sustainable Development

Publications

- **Lara Alotaibi, et al, "Low Cost and Scalable Haptic VR Glove**", International Conference on Computational Intelligence and Communication Networks, **CICN, Dec 2022, Khobar KSA**

Achievements & Awards

- **SDAIA-KAUST Academy Introduction to AI Bootcamp,** KAUST (2022)
- **Tutoring CS1 Students**, College of Computer Engineering & Sciences PMU (2022)
- **Cloud Infrastructure Foundations Associate**, Oracle (2021)
- **Dean's List Honors**, Prince Mohammad Bin Fahd University (2020, 2023)

Extra-Curricular Activities

- Core Member of the **Google Student Developers Club, PMU**
- President of **Robotics Society, PMU**
- Vice President of **Undergraduate Research Society, PMU**
- Treasurer of **IEEE Women in Engineering, PMU**
- Mentor in the **MISK mentoring program**
- Harvard Summer School, **Introduction to Psychology Course**
- Harvard Summer School, **Law and Psychology Course**
- Yale, **Intro. to Psychology Course**
- Dhahran Art Group, **Art Instructor**
- Ithra, **Assistant Facilitator, Volunteer, Leader for the Children's Winter Camp**
- Aramco, **Salesperson**