

# 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:** <http://larasportfolio.herokuapp.com/>

## Education

- 3.5+/4, **Bachelor of Science**, Prince Mohammad Bin Fahd University
  - **Double Major in Software Engineering and Computer Engineering**
  - ABET Accredited Program
  - Expected graduation date: May, 2024

## Experience

June 2022 – August 2022: **Robotics Engineer Intern**, Robotics Lab at Prince Mohamed 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

### 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)**
- **Cloud Infrastructure Foundations Associate, Oracle (2021).**
- **Dean's List Honors, Prince Mohammad Bin Fahd University (2020).**

## Extra-Curricular Activities

- Core Member of the **Google Student Developers Club**
- Member of **IEEE Robotics and Automation Society**
- Mentor in the **CS1 Help Session Program, Computer Collaro Club 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**