

# Javaria Hassan

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github.com/JavariaHassan

Portfolio: javariahassan.github.io

## Languages and Frameworks

- **Most Experience:** Python • JavaScript • C++ • HTML5/CSS3
- **Some Experience:** Haskell • Golang • PHP • SQL
- **Frameworks:** Flask • Vue.js • Node.js • React Native

## Education

### Bachelor of Science in Computer Science

Lahore University of Management Sciences (LUMS)

CGPA 3.51, **Major GPA 3.76.**

Graduation with High Merit.

09/2016 – 05/2020

Lahore, Pakistan

## Work Experience

### 1. Research Assistant (Remote)

06/2020 – Present

at the **Learning, Innovation and Technology Lab** at the **Harvard Graduate School of Education**

#### Lead Developer, Multimodal-Toolkit Web Application

[mmla.gse.harvard.edu](https://mmla.gse.harvard.edu)

Leading a team of 3 developers on an application for users to collect data on body orientation, emotion, and heart rate in real-time through sensors using **JavaScript Machine Learning models**. The application is being used by 60 Harvard graduate students enrolled in a Multimodal Analytics course.

- Developed the frontend for 11/15 tools on the website using **HTML5, CSS3, Bootstrap, VanillaJS**, and **Tensorflow.js**.
- Architected and developed the backend using **Python, Flask** and **OpenCV**.
- Deployed the application on an **Ubuntu VPS** with an Apache webserver.
- Provided technical guidance and mentorship to team members.

#### Sole Developer, Learning Portal Web Application

[lp.gse.harvard.edu](https://lp.gse.harvard.edu) (Restricted to Harvard network)

Developed an educational website for a Multimodal Analytics course offered to 60 Harvard graduate students. The website offers video lectures to students and simultaneously captures their body posture, gaze location, and emotion.

- Built the app from the ground up within a 1-month deadline.
- Implemented **Firestore authentication** and managed a **Firestore Realtime Database** in **Python**.
- Worked with **Flask, HTML5, VanillaJS, Tensorflow.js**, and **Ubuntu VPS**.

### 2. Undergraduate Research Assistant

06/2019 - 05/2020

at the **Technology for People Initiative Lab** at the **Lahore University of Management Sciences**

#### Project Lead, Analysis of Gender Bias in Pakistan's Print Media

- Trained **word embeddings** on 0.2 million news articles and used vector-similarity measures to demonstrate how the Pakistani media perpetuates gender stereotypes.
- Worked in **Google Colab** and used **Pandas, NumPy, Scikit-learn**, and **Gensim** python libraries.
- Developed the frontend of a web application that reports on gender bias in news articles using **Vue.js**.

## Team Member, Analysis of Machine-Text Generation and Discrimination Models

Collaborated with professors from the University of Iowa to study neural language models and their potential to propagate misinformation.

- Conducted a systematic analysis of reviews posted on federal agency websites and e-commerce marketplaces to examine the possibility of reputation fraud using language models.
- Evaluated discriminatory models on (1) text samples with various stylometric features and (2) text samples generated by differently configured models.

### 3. Selected Course Projects

#### Frontend Developer, Hotel Booking Mobile Application

01/2019 - 05/2019

[github.com/JavariaHassan/TheDefenceClub](https://github.com/JavariaHassan/TheDefenceClub)

Worked in a group of 5 to develop a booking application following a modified waterfall model.

- Prepared software requirements specifications and software design specifications documents.
- Designed user interface prototypes in **Adobe XD** and translated them into a **React Native** frontend.

#### Project Lead, 3D-Sound Shooting Game for the Visually Impaired

09/2018 - 12/2018

Worked in a group of 5 to design a mobile game for visually impaired people following a **participatory design process**.

- Worked with 35 visually impaired participants in user research, design, and evaluation.
- Conducted interviews and worked on low-fidelity prototyping, user flows, **Unity** development, and user testing.

### 4. Undergraduate Teaching Assistant

09/2018 - 12/2019

#### • Advanced Programming Course

Designed a programming exam for 156 students on **asynchronous programming** in **Vue.js**. Supported students' learning of **functional programming** in **Haskell** and **concurrent programming** in **Golang**.

#### • Introduction to Programming Course

Supervised weekly labs for 100 students on programming exercises in **C++**.

#### • Human Computer Interaction Course

Supervised classroom activities, conducted weekly progress meetings with student groups, and kept up-to-date on the class slack group.

## Awards and Extracurriculars

#### • Dean's Honour List, LUMS.

09/2017 - 05/2020

#### • Creative Director, Society for the Promotion and Development of Engineering and Sciences, LUMS.

06/2018 - 05/2020

#### • Athlete, Female Basketball Team, LUMS.

09/2017 - 05/2019

## Community Service

#### • Design Lead, Pakistani Women in Computing Organization, Lahore Chapter.

06/2020 - Present

#### • Graphic Designer, Rahnumai Educational Consultant.

06/2020 - Present

#### • Content Writer, SOS Children's Village Pakistan.

06/2020 - Present

#### • Teacher, Seeds of Change Program.

06/2017 - 08/2017