

MUHAMMAD AHSAN SAJJAD BUTT

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EDUCATION

University of Utah

Salt Lake City, UT

Masters of Science in Computer Science (**GPA: 3.45 / 4.0**)

08/2019 - Present

Courses: Computer Architecture, Programming Languages, Parallel Computing, Artificial Intelligence, Operating Systems, Distributed Systems, Graduate Algorithms, Advanced Computer Networks

Lahore University of Management Sciences (LUMS)

Lahore, Pakistan

Bachelor of Science in Computer Science (**GPA: 3.6 / 4.0**)

08/2015 - 06/2019

Courses: Computer Graphics, Computer Architecture and Systems, Program Analysis, Deep Learning, Network-Centric Computing, Network Security

TECHNICAL SKILLS

Frameworks: NodeJS, Flask-Python, React-JavaScript, GoogleAppEngine-Python

Languages: Python, C++, C, Golang, Haskell, JavaScript, C#

Other: CSS, HTML, R, MATLAB, Selenium, DrRacket, MySQL, SQLite, Sat-encoding, Git, Unity

EXPERIENCE

Research Assistant

University of Utah - 01/2020 - Present

- Re-engineered SweetPea, an open-source Python library, to make the experiment design process for researchers more user-friendly to allow a wider range of complexity among experiments.
- Translated the users' requirements to Sat-encoding and employed Docker to request a solution from a back-end Haskell server.
- Collaborated with the Department of Psychology in Princeton to maximize usability of the library from the researchers (stakeholders) perspective.

Software Engineer Educative, Inc. (Startup)

Lahore, Pakistan - 01/2019 - 05/2019

- Created and customized several user-friendly web pages using HTML, CSS, JavaScript and REACT on the front-end and updated Python APIs at the back-end.
- Utilized Selenium to test the functionality of the UI components.
- Corresponded with the marketing team in US to modify the website in order to understand and improve user experience for 380,000+ subscribers.

Teaching Assistant: Network-Centric Computing

Lahore, Pakistan - 01/2019 - 05/2019

- Held recitations to elucidate complex concepts taught in class and mentored students for their semester long project.

PROJECTS

Distributed Search Engine

LUMS - Fall 2018

- Designed a distributed multi-threaded system in Python that spread the search domain among multiple machines.
- Ensured fault tolerance to the system by backing up files protecting against machine malfunctions.
- Resolved conflicting nodes using techniques like eventual consistency.

National Engineering Robotics Contest

LUMS - Summer 2016

- Built and assembled the components of an autonomous robot using IR sensors for environment detection and an Arduino board for computation.
- Programmed it to localize itself and plan the best possible path with A* shortest path algorithm to complete the desired task.

Evolved Packet Core

LUMS - Fall 2018

- Surveyed the underlying network of 4G and 5G networks in Pakistan to uncover potential security loopholes.
- Simulated a small-scale LTE network using openEPC to study the effects of common network attacks.

Turnitin Submission File Manager

LUMS - Spring 2019

- Created an online portal for users of Turnitin with SignUp and authentication services using Python Flask back-end and HTML and CSS front-end.
- Programmed additional functionality to store submissions to a file manager backed up by SQLite3 database.

Android-based Augment Reality Game

LUMS - Spring 2019

- Developed an Android game using Unity and C# programming for a course project.
- Utilized GPS to design an environment-based shooting game with various activities based on the location.