

DAIM ARMAGHAN

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EDUCATION

Lahore University of Management Sciences (LUMS) <i>Bachelor of Science in Computer Science</i>	Lahore, Pakistan Sep 2019 - Present
Reader Group of Colleges <i>F.Sc Pre-Engineering; GPA: 4.00/4.00</i>	Sargodha, Pakistan July 2017 - August 2019

AWARDS AND HONORS

Stacks Pakistan Award <i>Received StacksPakistan Award in Blockchain Solution Hackathon</i>	Jan 14, 2022
LUMS Dean's Honor List 2020 and 2021 <i>Placed at Dean's Honor List in recognition of excellent academic performance for academic years 2020 and 2021</i>	Dec 2021
Summa Cum Laude (High Honors) <i>Summa Cum Laude (High Honors) Award for graduating with Top rank in District level, with GPA:4.00/4.00</i>	June 2019
Valedictorian of High School <i>Graduated as Valedictorian with Top Rank in IAV High School.</i>	July 2017

TEACHING EXPERIENCE

Lahore University of Management Sciences <i>Undergraduate TA</i>	Lahore, Pakistan Sep 2021 – Present
<ul style="list-style-type: none">• CS 360 - Software Engineering (Spring 2023): Teaching, advising, office hours, design and grading assignments of undergraduate freshman students.• CS-100 - Computational Problem Solving (Fall 2021): Teaching, advising, office hours, design and grading assignments of undergraduate freshman students.	

RESEARCH EXPERIENCE

Technology for People Initiative, LUMS <i>Undergraduate Deep learning Research Assistant</i>	Lahore, Pakistan June 2022 – Present
<ul style="list-style-type: none">• Forest Fire Detection through detection transformers: Worked with Dr. Murtaza Taj on Early Forest Fire Detection using Deformable Detection Transformers (DETR). Performed dataset augmentation and generation, and improved DETR model performance on localization and classification.• Academic Success: Submitted Paper "Exploring State-of-Art Models for fire detection framework" as First Author in IEEE-ICASSP 2023.• Employing Sequential NMS in Object Detection frameworks: Improved performance of Object detection model YOLOv5 with non-maximal suppression algorithm.	
University of Illinois Urbana-Champaign <i>Undergraduate NLP Research Intern</i>	Champaign IL, USA June 2022 – August 2022
<ul style="list-style-type: none">• Employed ML models for code-related tasks: Worked on different models that use information stored in the syntactical structure of code. The research mainly focuses on using Deep learning models like code2seq, code2vec, CodeBERT etc., to utilize the potential of information inside syntactical structure of code. Worked at Intelligent CAT lab under supervision of with Dr. Reyhaneh Jabbarvand.	
Center of Speech and Language technologies, LUMS <i>Machine Learning Research Assistant</i>	Lahore, Pakistan Jan 2022 – April 2022
<ul style="list-style-type: none">• keyword spotting: Worked on KWS (keyword spotting) for low-resource languages, at C-salt, under the supervision of Dr. Agha Ali Raza.• Emotion Tagging: Worked on Speech Emotion Recognition of Low resource languages especially Urdu, the National language of Pakistan.• AI-Health bot: Proposed AI-based medical chatbot for rural areas of Pakistan.	

National Agriculture Robotics Lab, LUMS

AI Research Assistant

Lahore, Pakistan

Aug 2021 – December 2021

- **Weed Detection in Cash Crops:** Worked on Weed Detection in Cotton Crops using Deep Learning Models. Employed Computer Vision techniques on drone imagery of crops at NARL under the supervision of Dr. Mian Muhammad Awais.

PUBLICATION

Exploring State-of-the-art Models for Early Forest Fire Detection Framework

IEEE 2023 International Conference on Acoustics, Speech, and Signal Processing

Oct 20, 2022

Under Review

DEVELOPMENT PROJECTS

Lane Detection Project

Oct 2022 – Dec 2022

Tensorflow, Python, CUDA, Roboflow

- * Developed lane detection system using Computer Vision techniques like homography, top-view generation, CV2 trackers, warping, and vanishing point estimation.
- * Employed object detection models like YOLOv7 and lannet.

Learning Management System

Nov 2022 – Dec 2022

ReactJS, ExpressJS, MySQL, NodeJS

- * Developed a learning management system using React and NodeJS deployed on AWS.
- * Employed secure file management system, encryption, and cookies.

MoonFall

Oct 2022 – Nov 2022

Unity, Blender

- * Developed a PC game inspired by sci-fi series on Unity.
- * Added self-created 3D assets in game made through Blender.

Forest Fire Dashboard

Nov 2022 – Dec 2022

Tensorflow, Python, CUDA, Roboflow

- * Developed lane detection using Computer Vision techniques like homography, top-view generation, CV2 trackers, warping, and vanishing point estimation.
- * Employed object detection models like YOLOv7 and lannet.

Automatic Speech Recognition System

Jan 2022 – May 2022

Python, Numpy, CUDA, Pandas

- * Developed an ASR using Hugging Face wav2vec model. Generated a Speech corpus for the Urdu language containing all distinctive phonemes.

Video Object Detection

Jan 2022 – May 2022

PyTorch, Numpy, CUDA, Pandas, Conda

- * Worked on Video Object Detection using Transformer based models. Improved performance of YOLOv5 using non-maximal suppression algorithms.

Chat Application

March 2021 – April 2021

Python, TCP, Git

- * Real-time chat application built in Python using UDP protocol and sockets that can transfer files as well. Implemented fault tolerance and reliability on top of UDP layer.

Wordle

Jan 2022 – Feb 2022

ReactJS, NodeJS

- * Developed Wordle game as a multi-player web-based game. Used socket programming and MERN stack.

Missile Fest

June 2021 – August 2021

Unity, Blender, Maya3D

- * Developed missile-based Mobile game on Unity. Used self-made 3D models designed on Blender.

DEVELOPMENT EXPERIENCE

Human Computer Interaction Lab, LUMS

Lahore, Pakistan

Software Developer Intern

April 2022 – Oct 2022

- * Developed a mobile application for LUMS-Bloodlink LCSS, aimed to digitalize processing of blood requests and bridge gap between donors and requestors.
- * Developed using flutter and used NodeJS, ExpressJS, Mongo DB.
- * Bloodlink app was officially launched at the Google play store in November 2022.

Mindstorm Studios

Lahore, Pakistan

Game Developer Intern

April 2022 – Oct 2022

- * Developed hyper-casual games in Unity, Blender.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, C-Sharp, MATLAB

Frameworks: React, NodeJS, Flask, Flutter, MERN, WordPress, RestAPI

Developer Tools: Roboflow, Git, Docker, AWS, Google Cloud Platform, VS Code, Visual Studio, Unity, Blender, Figma, IntelliJ, Eclipse

Libraries: CUDA, pandas, NumPy, OpenCV, Keras, PyTorch