

Mohtashim Butt

24100238@lums.edu.pk | +92 316 4932575 | [linkedin.com/in/mohtashim-butt](https://www.linkedin.com/in/mohtashim-butt)
github.com/MohtashimButt

PROJECTS

Geographically transferable DL model for urban greenspace segmentation

Bachelor's Thesis

Supervisor: [Dr. Zubair Khalid](#) (Ph.D. Australian National University)

Aug. 2023 – Ongoing

- Merging the greenspace polygons from GIS platforms using Python scripting as a basis for our training data.
- Developing a Deep Learning model that segments the input satellite imageries as a certain greenspace class while maintaining geographical transferability | [In-Progress Report](#)

Ancient text and carving segmentation on petroglyphs via ViTs

Directed Research Project

Supervisor: [Dr. Murtaza Taj](#) (Ph.D. Queen Mary University of London)

Sept. 2023 - Ongoing

- Generated a rich dataset bank by annotating ancient South Asian rock art images and text.
- Scrutinized pre-existing transformer models, implemented a hierarchical vision transformer layer, and incorporated techniques like Explicit Visual Prompting to segment the camouflaged carvings on the rocks.

Similarity Detection and Sentiment Analysis of Online Text

Machine Learning Project

Supervisor: [Dr. Agha Ali Raza](#) (Ph.D. Carnegie Mellon University)

Nov. 2023 - Dec. 2023

- Fine tuned sentence transformer ([SBERT](#)) for text embedding generation for our use case and designed the pipeline for text similarity detection and classification.
- Analyzed the similarity and sentiments of our text data and classified them via Logistic Regression classifier | [Code](#).

Lane detection model | ImageNet, Yolov7, OpenCV, TensorFlow

[View Source Code](#)

An algorithm to detect lanes for autonomous cars for traffic safety

- Designed an algorithm (using LaneNet and Yolov7) for a car to automatically detect Lanes and vehicles on the road, which will assist in autopilot.
- Developed a dynamic homography mechanism to display an orthographic top-view of the Lane.

INDUSTRY EXPERIENCE

Technical Content Intern

[Educative Inc.](#)

Area: Research and Development

June. 2023 - Aug. 2023

- Conducted extensive research about the topics related to computer vision, computer graphics, and Machine Learning.
- Curated around **58** quality articles and introduced a new module on IoT devices to the Educative's Answers platform | [My Profile](#)

TEACHING EXPERIENCE

Teaching Assistant

Computer Vision Fundamentals (CS-5310)

Instructor: [Dr. Murtaza Taj](#)

Fall-2023

- Helped the instructor of this graduate-level course by grading components, conducting office hours, delivering tutorials, making the programming assignments, and taking the lead in the graded final project.
- Revamped the course structure by including programming assignments incorporating Hugging Face and Roboflow use.

SKILLS

- **Languages / Frameworks:** C, C++, Python(w/ NumPy, sci-kit learn, pandas, Keras, TensorFlow, PyTorch), MATLAB, TypeScript, React, SQL, CSS, Figma, HTML, Haskell, Proteus, Arduino, LLM.

EDUCATION

Lahore University of Management Sciences – BS Computer Sciences

Lahore, Pakistan

Relevant Courses: Computer Vision, Introduction to Artificial Intelligence, Machine Learning, Speech and Language Processing with Generative AI, Deep Learning

Aug. 2020 – May 2024