

Education

LUMS(Lahore University of Management Sciences)

Lahore, Pakistan

B.S. IN COMPUTER SCIENCE

August 2018 - May 2022

- Relevant Courses: Deep Learning, Machine Learning, Data Science, Computer Vision, Advanced Programming, Software Engineering
- CGPA: 3.47/4.0

Stanford University

California, USA

SUMMER SEMESTER

Jun. 2017 - August 2017

- Relevant Courses: Programming Methodologies, Philosophy and Emerging Technologies
- GPA: 3.85/4.0

Work Experience

Wizlabs AI

MACHINE LEARNING RESEARCH INTERN

January 2021 - Present

- Responsible for all **GAN (Generative Adversarial Network)** experiments
- Working as part of the **core team** to improve final product by changing model architecture, tuning hyper-parameters and augmenting data

LUMS

TEACHING ASSISTANT - DEEP LEARNING CS437/CS5317

January 2022 - Present

- Creating and grading quizzes and assignments for a class of **90 students**.
- Give tutorials to help student navigate and learn new python libraries as well as introduce them to Deep Learning concepts.

CO INSTRUCTOR - DEEP LEARNING CS437/CS5317

September 2021 - December 2021

- Designed the course outline
- Created assignments, tutorials and lectures on course content pertaining to the theoretical aspect of various Neural Networks as well as their code implementation, for students from **undergrad to PhD level**.

Projects

• Computational Neuroscience:

Applying Neural Architecture Search on variations of the MNIST dataset, with and without a **neuro-inspired** layer to capture the **domain adaptive** effect of the neuro-inspired model. Subsequently, explaining the authenticity of this neuronal layer by performing comparisons and analysis of **40k mouse visual cortex neurons** with models trained on the CIFAR-100 dataset.

• Computer Vision:

Created a **multi-camera system** able to detect people with masks and without masks. Generated an orthographic top view with object detection visualization as well as Covid-19 SOPs violation detection in the form of a **heatmap**.

• Reddit Data Analysis:

Queried Reddit **Big Data** using SQL to extract subreddits posts and comments data. Analysed them to test the hypothesis that whether user participation in banned/quarantined/hateful subreddits affects user participation in other subreddits or not. A hate speech classifier was run on the comments to categorise them as hate speech, offensive language or neither.

• Transfer Learning, CNNs:

Performed transfer learning with different models including EfficientNet, VGG, MobileNet and ResNet as part of an in class **Kaggle competition** and came in the **top 5**. The model was introduced to 3 new types of Pakistani vehicles.

• Data Science:

Took 30 years of movies dataset through the whole **data science lifecycle** which included data cleaning, exploratory data analysis, causal and statistical inference, and then finally trained a machine learning model on it to predict the IMDb score based on certain given features.

• NHS:

Created an **e-commerce website** with **ReactJs** and **Firestore** for the Nazir Herbal Store complete with an admin web-portal along with order and delivery tracking functionality. The project was taken through the complete software development lifecycle.

Extracurricular Activity

LUMS Adventure Society (LAS)

TREASURER

- Summited **Gondogoro Peak (6008m ASL)** and led the successful first ever student expedition of the peak. (Also featured on **national news**)
- Led the first and the largest student expeditions to **Lupke La (5700m ASL)** and **Lupghar Pir Pass (5120m ASL)**.
- Organized and led numerous trekking expeditions for the LUMS community including the May Trip which included 5 destinations in Gilgit/Hunza with **200+ students**.
- Worked on a collaboration with Karakorum Bikers to launch the **Mountain Bikers Crew** which took out a bike rally from Islamabad to Chitral.

Counselling and Psychological Services (CAPS)

MEMBER - STUDENT ADVISORY BOARD

- Working with CAPS counsellors to devise better mental health policies for the LUMS student body and to create awareness regarding mental health in general and the mental health facilities available at LUMS.

Skills

Total proficiency in C++, Python, Numpy, Pandas, PyTorch, Tensorflow, OpenCV, Scikit-learn

Fair competency of SQL, Python Flask, HTML, CSS(Bootstrap), Javascript, ReactJs and Microsoft Excel

Functional knowledge of C, Java, Haskell and Latex