

# Mohd Sadiq

Cambridge, Cambridgeshire, United Kingdom

+447767975520 | mohdsadiq8998@gmail.com | github.com/ms2892 | linkedin.com/in/mohd-sadiq-cam

## Personal Profile

Specialist in Machine Learning with 2+ years of experience and a **Masters Degree from University of Cambridge**, specializing in MLOps and Deploying Machine learning models in the field of Computer Vision and Reinforcement Learning (PyTorch and Tensorflow) using cloud based technologies like AWS. Looking to advance career in Machine Learning, Data Science and Software Engineer positions.

## Major Achievements

- Re-architected and optimized an image clustering pipeline for clustering of scenes in a movie that reduced the processing time by 84
- Developed a novel split based algorithm to improve solution time in retrosynthesis using Microsoft's Syntheseus.
- Developed a Ticket grading feature using an ensemble of large models.
- Authored and published 2 research papers.

## Tech Stack

Python, PyTorch, Tensorflow, Docker, NumPy, Scikit-learn, OpenCV, Git, AWS (Batch, S3, ECR, EC2), Metaflow, Nvidia (Triton, TLT Kit), Matplotlib, Seaborn, C++, ReactJS, HTML/CSS, Flask, SQL

## Work Experience

**Ryff** Cambridge, UK  
Machine Learning Engineer May 2023 - Current

- Overhauled and optimized an existing image clustering pipeline that reduced the processing time by 84%.
- Architected a pipeline to use Recognize Anything Model and DINOv2 to increase the number of objects detected in an object by 60 times.
- Founded a novel pipeline to estimate voxels around a given object in a given scene using Segment Anything Model, VoxelNext and Depth estimation using 1 image
- Deployed end to end models on K8s and AWS Batch using Metaflow for 75% of the existing workflows
- Spearheaded in standardizing the Logging system for all modules.
- Modularized the prevailing video processing pipeline with a bespoke architecture with 60% faster processing.

**Volunteer** Cambridge, UK  
Front End Web Developer February 2023 - May 2023

- Revamped UI design for UniArk (Deployed at: <https://uniark.org/>) which 93% of stakeholders preferred.

**RBCDSAI, IIT Madras** Chennai, India  
Project Associate September 2021 - August 2022

- Designed a novel human in the loop learning algorithm that helped in reducing the human biases in datasets that had an improvement of 5% on the benchmark datasets.
- Spearheaded and collaborated 5 machine learning projects for stakeholders that revolved around reinforcement and supervised learning.

**Wobot AI** New Delhi, India  
Computer Vision Engineer May 2021 - September 2021

- Developed a Ticket grading feature for the clients to judge the authenticity of a false positive.
- Implemented bespoke models or pipelines for different use cases using Pytorch, Tensorflow and ONNX over Triton servers with average model processing time of 120 milliseconds.

**Jamia Millia Islamia** New Delhi, India  
Research Student June 2020 - September 2022

- Authored and published 2 research papers in reputed journals like Springer IJFS and TSP CMC (First Author).
- Guided a team of skilled individuals in research projects and published 1 paper in field of Computer Vision.

**MixOrg** New Delhi, India  
Internship November 2020 - January 2021

- Conducted research on use of AI to improve the success rate of embryo transfer in IVF for humans (15% improvement in accuracy).
- Created a synthetic image generation application using StyleGAN to enhance the existing dataset (10% difference in accuracies).
- Developed a Heat map generation model for inferences learnt by the model using Grad CAM (63% of stakeholders preferred the product with this feature).

## Education

### University of Cambridge

MPhil in Machine Learning and Machine Intelligence

Result Awaited

Cambridge, UK

October 2022 - August 2023

### Jamia Millia Islamia

BTech in Computer Engineering

CPI: 9.16/10 First Division with Honours

New Delhi, India

August 2017 - August 2021

## Thesis

### Nearest Neighbor Value Function For Chemical Retro Synthesis

University of Cambridge

Cambridge, UK

May 2023 - August 2023

- Researched a split based heuristic of molecule to estimate the cost of synthesizing the molecule.
- Developed a Reinforcement Learning model to learn to split the molecule up based on 3 reward functions.
- Improved cost estimation (value function) quantified by time taken for first solution.
- Implemented the value function in Microsoft Syntheseus

## Publications

### JOURNAL ARTICLES

Attention-Based Deep Learning Model for Early Detection of Parkinson's Disease

Mohd Sadiq, Mohd Tauheed Khan, Sarfaraz Masood

*Tech Science Press- Computers, Materials Continua* 71.3 (Dec. 2022) pp. 5183–5200. 2022

FD-YOLOv5: A Fuzzy Image Enhancement Based Robust Object Detection Model for Safety Helmet Detection

Mohd Sadiq, Sarfaraz Masood, Om Pal

*International Journal of Fuzzy Systems* 24.5 (Apr. 2022) pp. 2600–2616. 2022

### CONFERENCE PROCEEDINGS

SCS-Net: An efficient and practical approach towards Face Mask Detection

Umar Masud, Momin Siddiqui, Mohd Sadiq, Sarfaraz Masood

*Procedia Computer Science* 218 (Jan. 2023) pp. 1878–1887. 2023

## Interests

**Cooking** I host weekly cooking session with a group of friends with various cuisines

**Front End Design** In my free time I sometimes like to implement certain web designs/elements using HTML and CSS only.

**Writing** I am writing a collection of short stories that I wish to publish one day

**Badminton** I go to badminton sessions in sport centres on a bi-weekly basis

**Travelling** I love travelling and have a bucket list of countries that I wish to cross off.

## Languages

**English** Professional proficiency

**Hindi** Native proficiency

References available upon request.