

Akanksha Mhadolkar

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PROFILE

A dedicated AI Researcher and Machine Learning Engineer with nearly two years of hands-on experience in AI, deep learning, and data science. Proven track record of applying advanced machine learning techniques to solve complex problems, particularly in the realms of computer vision. Seeking to contribute to cutting-edge AI research and development in a dynamic environment.

WORK EXPERIENCE

11/2022 – present
Hyderabad

Indian Institute of Technology Hyderabad

Junior Research Fellow

- Working under Prof. Surendra Nadh Somala in the department of Heritage Science and Technology, specializing in computer vision and deep learning techniques.
- Applied advanced computer vision methods for point cloud semantic segmentation, unraveling the architectural intricacies of heritage structures.
- Pioneered 3D reconstruction of heritage sites using image-based techniques like Visual SFM, COLMAP, and NeRF.
- Collaborated with multidisciplinary teams to bridge technology and heritage preservation, contributing to the conservation and documentation of historical sites.
- Conduct advanced 3D reconstruction and analysis of petroglyphs in the Konkan region of India, utilizing cutting-edge AI methodologies.
- Working on the design and implementation of an AI chatbot utilizing LLMs, RAG, and related technologies. This chatbot excels at parsing diverse data formats (CSV, PDF, TXT, JSON) to extract valuable insights and generate relevant code for data analysis.

2024 – present

Outlier AI

Freelance RLHF Contributor

- Work on Reinforcement Learning from Human Feedback (RLHF) tasks to enhance the alignment and performance of large language models (LLMs).
- Evaluate, rank, and fine-tune AI-generated outputs to improve the quality and relevance of model responses.

06/2022 – 08/2022
Indore

Indian Institute of Management Indore

Summer Research Intern

- Worked under the supervision of Prof. Saurabh Kumar (Information Systems Area) and gained practical experience in time series forecasting and data analytics.
- Worked primarily on road accidents data in India and USA and performed times series forecasting using ARIMA/SARIMA to predict future road accidental deaths.

01/2022 – 04/2022
Remote

Utkarshini Edutech

Artificial Intelligence Research Intern

- Worked on projects with technologies including AI, Neural Networks, Data Analytics and Deep Learning.
- Performed Explainable AI to explain predictions of an image classification model.
- Explored different causal machine learning libraries and implemented the same to understand the cause and effect of telecom customer churn.

PROJECTS

10/2021 – 12/2021

EyeSpeak: A Gaze and blink controlled virtual keyboard

- Made a virtual keyboard that can be controlled with just the eyes for patients with paralysis, LIS, ALS and various other motor neurone diseases.
- Implemented gaze detection and blink detection CNN models to detect the eye movements and control the UI.

- Technologies used -: Tensorflow, OpenCV, Dlib

07/2021

Image Colorization with Autoencoders

- Implemented colorization of grayscale landscape images by using autoencoders.

07/2021

Crawling and Analysis of Internship & Job Portal

- Worked in a team to create a data mining project to provide an insight over the current trends in the software industry.
- Built our own dataset by scraping Internshala and Monster India websites and performed extensive data exploration on the same.

06/2021

Malware Image Classification with CNNs

- Classified malware into their respective malware families by first converting malware 8-bit vector files to .png images.
- Used CNN to extract features from malware images and perform image classification.
- Achieved an accuracy of 96.4%

05/2021

Real time Face mask Detection with yolov3

- Trained the model on face mask detection dataset from Kaggle
- Achieved a Mean Average Precision (mAP) of 85.25%

2019 – 2020

Smart Ambulance Patient Monitoring System

- A real time smart system that monitors and sends the patient's health parameters to the respective hospital, thereby giving the hospital enough time to prepare for preoperative procedures based on the patient's condition.

EDUCATION

2020 – 05/2022
Mumbai, India

Ramnarain Ruia Autonomous College
Master of Science in Computer Science
CGPA 9.88

2017 – 2020
Mumbai, India

Vidyalankar School Of Information Technology
Bachelor of Science in Information Technology
CGPA 8.62

SKILLS

Languages

Python, R, C++, SQL, Scala

Machine Learning / Deep Learning

GenAI, Transformers, NeRF, CNNs, Object Detection, Autoencoders, , Random Forest, LLMs, Langchain, RAG, Llama, Linear/Logistic Regression, Explainable AI, Causal ML, Time Series Forecasting, ARIMA, EDA, Computer Vision, Sentiment Analysis, Data Structures, NLP, SVM, K-NN, Decision Tree.

Packages

Scikit-Learn, OpenCV, SciPy, NLTK, Matplotlib, Tensorflow, Keras, Yolov3, LIME, SHAP, EconML, DoWhy, Pytorch, Statsmodels, DLib, open3d

Tools

Pycharm, IntelliJ IDEA, Cloud Compare, QGIS, Blender, Matlab, Jupyter Notebook, MS Office Suite, Adobe Illustrator.

QUALIFICATIONS

UGC NET QUALIFIED

Assisant Professor (Lectureship)
2024

AWARDS

Hackdown - Runner Up

IEEE - VSIT
05/2020
Online Codathon organized by IEEE-VSIT Student Branch

LANGUAGES

English | Hindi | Marathi | Spanish