

HARSH THAKKAR

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EDUCATION

University of Southern California Master of Science Computer Science Master of Science Computer Science with a specialization in AI Coursework: - Analysis of Algorithms, Machine Learning, Deep Learning, Web Technologies	Los Angeles, USA August 2023-May 2025
Pune Institute of Computer Technology (University of Pune) Bachelor of Engineering Information Technology Honors Bachelor of Engineering Information Technology Honors - AI/ML (CGPA: - 9.55) Coursework: - Machine Learning, Deep Learning, Artificial Intelligence, Cloud Computing, Database Management, Data Science & Big Data Analytics, Computational Statistics	Pune, India August 2019-May 2023

SKILLS AND LANGUAGES

Programming Languages and Frameworks: Python, R, Java, C++, PyTorch, TensorFlow, Huggingface, Scikit-Learn, NumPy, Pandas, HTML, CSS, JavaScript, SQL, Spark, MongoDB, React, Angular, Django, Flask, Seaborn, Matplotlib, and Streamlit
Tools and Technologies: Jupyter Notebook, RStudio, Tableau, AWS, Google Cloud, Linux, and Git

EXPERIENCE

USC's Lab of Machine Learning Healthcare and Biomedicine Graduate Research Intern	LA, USA January 2024-Present
<ul style="list-style-type: none">Worked towards building a knowledge base for precision oncology using LLMsBenchmarked the knowledge base on tasks like NER using BioBERT, BERT and RoBERTa	
Association for Socially Applicable Research (ASAR) Data Science Research Intern	Pune, India October 2022-August 2023
<ul style="list-style-type: none">Contributed to developing a geodatabase comprising over 700,000 healthcare facilities across India, utilizing R and Python to optimize locations for enhanced health infrastructure.Delivered key insights into healthcare accessibility by analyzing spatial data to compare various transportation modes and time frames, employing advanced geospatial data science techniques.Produced detailed, strategic visualizations mapping access to healthcare in rural and urban areas, quantifying disparities and providing a visual assessment of regional healthcare accessibility	
JyoSH AI AI Intern	Pune, India August 2022-June 2023
<ul style="list-style-type: none">Led the development of an AI-Powered Agricultural Robot's deep learning module for cotton crop health monitoringConducted fine-tuning and comparative analysis of YOLOv4, YOLOv5, YOLOv7, YOLOv8, and YOLO NAS modelsAchieved 0.891 mean average precision deploying YOLOv5 on Robot leveraging Jetson Nano	

PROJECTS

Sentiment & Statistical Analysis on 2022 Russo-Ukrainian Conflict (Python, Matplotlib, HuggingFace) [Paper]	August 2022
<ul style="list-style-type: none">Created a custom dataset of 1.5 million tweets spanning over 6 months during the crisisExamined sentiment trends across multiple languages by optimizing BERT for English (f1-score: 0.96) and M-BERT for 13 languages (f1-score: 0.92), enhancing the understanding of public opinionsPerformed statistical analyses of social media trends, assessing hashtag usage, language distribution, and engagement metrics such as likes, replies, and retweets	
Potato Leaf Disease Detection using Sequential Models (Python, TensorFlow, Keras) [Paper]	May 2022
<ul style="list-style-type: none">Directed a project identifying key diseases in potato leaves. Implemented and compared InceptionNet, ResNet50, MobileNet, and CNN sequential modelsAccomplished 96.12% accuracy with MobileNet, deploying it for a user-friendly web app for efficient disease detection	
Hospital Management System (SQL, Python)	November 2021
<ul style="list-style-type: none">Engineered a robust hospital management database to maintain extensive records of doctors, patients, and staff, integrating functionalities for doctor availability and daily task management. Detailed the system's scope, entities, and attributes, including specifications for patients (personal details, emergency status), staff (qualifications, shifts), rooms (type, status), facilities (cost, amenities), and payment methods, enhancing data handling and operational efficiency.	