

HARSH NITIN THAKKAR

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EDUCATION

University of Southern California

Los Angeles, USA

Master of Science

August 2023-May 2025

- Coursework: - Analysis of Algorithms, Machine Learning, Deep Learning, Web Technologies

Pune Institute of Computer Technology (University of Pune)

Pune, India

Bachelor of Engineering ML

August 2019-May 2023

Coursework: - Machine Learning, Deep Learning, Artificial Intelligence, Cloud Computing, Database Management, Data Science & Big Data Analytics, Computational Statistics

SKILLS AND LANGUAGES

Programming Languages and Frameworks: Python, R, Java, C++, PyTorch, TensorFlow, Huggingface, Scikit-Learn, HTML, CSS, Javascript, SQL, MongoDB, React, Angular, Django, Flask, Seaborn, Matplotlib, and Streamlit

Tools and Technologies: Jupyter Notebook, RStudio, Tableau, AWS, Google Cloud, Linux, and Git

EXPERIENCE

Association for Socially Applicable Research (ASAR)

Pune, India

Research Intern

October 2022-August 2023

- Collaborated in the creation of a geodatabase of over 700,000 Indian healthcare facilities using **R and Python** for optimal health infrastructure location
- Provided valuable insights into healthcare accessibility across different time frames and modes of transportation using **geospatial data science and analytics**
- Generated strategic high-resolution access-to-care maps for rural and urban regions to estimate and quantify the disparities

JyoSH AI

Pune, India

AI Intern

August 2022-June 2023

- Led the development of an AI-Powered Agricultural Robot's deep learning module for cotton crop health monitoring
- Conducted fine-tuning and comparative analysis of **YOLOv4, YOLOv5, YOLOv7, YOLOv8, and YOLO NAS** models
- Achieved 0.891 mean average precision deploying YOLOv5 on Robot leveraging **Jetson Nano**

Algo Analytics

Pune, India

Cloud Intern

July 2021-December 2021

- Successfully built a SaaS solution, enhancing stock price prediction capabilities through **AWS and NLP**
- Designed an interactive dashboard using **Angular** which provided a user-friendly interface for visualizing and analyzing stock related data, contributing to more informed decision-making

PROJECTS

Text-Based Image Retrieval via Low-Resourced Indic Languages (Python, PyTorch, HuggingFace)

November 2023

- Implemented a Siamese network with triplet loss, achieving notable accuracies for English and Hindi models
- Integrated state-of-the-art **MuRIL** for Hindi text embeddings, and **BERT** for English captions, alongside **ResNet50** for image embeddings

Sentiment & Statistical Analysis on 2022 Russo-Ukrainian Conflict (Python, Matplotlib, HuggingFace) [\[Paper\]](#)

August 2022

- Created a custom dataset of 1.5 million tweets spanning over 6 months during the crisis
- Analyzed sentiment trends across languages by fine-tuning **BERT (English f1-score: 0.96) and M-BERT (13 languages f1-score: 0.92)**, aiding in public opinion understanding
- Conducted statistical analysis using hashtag frequency, language distribution, and popularity metrics (likes, replies, retweets)

Potato Leaf Disease Detection using Sequential Models (Python, TensorFlow, Keras) [\[Paper\]](#)

May 2022

- Directed a project identifying key diseases in potato leaves. Implemented and compared **InceptionNet, ResNet50, MobileNet, and CNN** sequential models
- Accomplished **96.12%** accuracy with MobileNet, deploying it for a user-friendly web app for efficient disease detection

Easy Health (Python, TensorFlow, Flask) [\[Github\]](#)

November 2021

- Engineered a **CNN-based web application** achieving a remarkable 96.4% accuracy
- Focused on detecting COVID-19, Breast Cancer, and Pneumonia from X-ray images