

# Sahil Mondal

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## EDUCATION

**University of Southern California, Los Angeles, USA**

**August 2022–May 2024**

Master's of Science in Computer Science (**GPA: 3.5/4.0**)

Relevant Courses: Applied Natural Language Processing, Web Technologies, ML for Data Science, Analysis of Algorithms

**Dr. Vishwanath Karad MIT World Peace University, Pune, India**

**July 2018–June 2022**

Bachelor of Technology in Computer Science and Engineering (**GPA: 9.74/10.0**)

Relevant courses: Data Structures, Computer Networks, Operating Systems, Data Mining

## EXPERIENCE

**USC Institute for Creative Technologies, LA, USA | Computer Vision Intern**

**May 2023–December 2023**

- Integrated **Segment Anything** and **Lama** models, driven by textual prompts, to build an **image inpainting system**.
- Optimized 3D terrain reconstruction through application of diverse **Neural Radiance Field (NeRF)** manipulation techniques adopting **Learned Perceptual Image Patch Similarity (LPIPS)** loss and extending it to **NerfStudio framework** code, resulting in an **80% improvement** over conventional NeRF models.
- Crafted a **3D mesh** capturing terrain details to create a simulated environment tailored for **US Army training** needs.

**Quidich Innovation Labs, Mumbai, India | Software Developer Intern**

**February 2022–July 2022**

- Integrated **Yolov5**, **Fast R-CNN** with **Non-maximum suppression and Confluence** to model an accurate **real-time object tracking** system for cricket achieving **58 frames per second**.
- Attained a **98% accuracy** rate in real-time player **face recognition** by leveraging **Yolov5-face** model for face detection and **python face\_recognition** library to extract facial encodings to match with encodings from test data.
- Collaborated with 2 interns to deploy the **dockerized** application for **20% more scalability** during prestigious cricket tournaments, including the World Cup 2021 and the Indian Premier League 2022. The live broadcast reached a viewership of **400 million** television viewers.

**Canspirit Ai, Pune, India | Machine Learning Intern**

**March 2021–June 2021**

- Led a team to create a **Flask web app** to extract crucial user info from PDFs using **text extraction** and **Named Entity Recognition models** obtaining an **94% overall accuracy** rate.
- Employed **Optical Character Recognition** tools like **Pytesseract**, **EasyOCR** with a **99% text extraction accuracy**, **UbiAi text annotation tool** for auto-labeling of custom entities and transformer language models (**BERT**, **ROBERTA**) to train on custom NER tags and respective tokens.
- Boosted a **25% increase** in company revenue following product launch, along with a case study.

## TECHNICAL SKILLS

**Languages:** Python, R, C, C++, C#, Java, Flutter, SQL, HTML/CSS, Javascript, PERL

**Frameworks & Technologies:** Tensorflow, Pytorch, OpenCV, React Js, Express Js, Node Js, Bootstrap, Flask, MySQL, MongoDB, Unity, Hugging Face, Keras, Android, Scikit-learn

**Cloud Platforms:** Google Cloud Platform (GCP), Amazon Web Services(AWS)

**Developer Tools:** Git, MATLAB, Postman, Tableau, Power BI, ArcGIS, Excel, Docker, WordPress, Linux

## PUBLICATIONS

**Skin Lesion Classification using Deep Learning and Image Processing** (Electronic ISBN: 978-1-7281-7089-3)

- Presented and published a paper on Skin Lesion Classification using Deep Learning and Image Processing at 3rd IEEE International Conference on Intelligent Sustainable Systems (ICISS), 2020.

## PROJECTS

**Counter COVID-19 Solutions**

- Designed a system incorporating two integral features for corporations to aid COVID-19 prevention norms.
- Implemented Mobilenetv2 for face mask detection, Yolov3 model with a metric of Euclidean Distance to monitor social distancing.

**Yelp Business Fetch Website**

- Developed both a website and an android app utilizing React, Java and Xml, supported by a NodeJS backend to process and query data about details of businesses in the United States fetched via the Yelp Api and finally deployed the website to Google Cloud Platform.
- Combined user-friendly features such as input autocomplete, table display of businesses, business card with details, Google Map integration, past business reviews, and a reservation form module.

## HONORS AND AWARDS

- Secured top 1 percentile in National Engineering Olympiad (April 2020) amongst 75000 students.
- Achieved top 2 percentile score out of 4500 applicants in course of 'Python for Data Science' offered by NPTEL.