Sneh Thorat

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# Objective

*To seek an opportunity to work as an intern during Summer 2024.*

# Education

* **Incoming Student at University of Southern California, Los Angeles, USA from Fall ’23 to pursue Master of Science in Computer Science.**
* B. Tech Computer Science and Engineering, MIT – World Peace University, India (2019 – 2023) with **CGPA: 9.3/10**

# Skills Summary

**Languages**: C, C++, Python, HTML, CSS, Django, Javascript

**Libraries**: NumPy, Pandas, Matplotlib, Scikit learn, TensorFlow

**Domains**: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Front end Web-Development

# Experience ( Internships )

**Capgemini** (A global leader in consulting, technology services and digital transformation) **March 14, 2022 - July 15, 2022**

* Participated in a Kaggle Competition ‘Happy Whale’ and trained a model to identify dolphins using classification algorithm in **Computer Vision**.
* Learned and implemented a use case on **Edge computing technology**.
* Trained a model using **NLP** to read emotions of text sentences in e-mails.
* Trained on **amazon AWS** and executed a use case using **Python & Pyspark**.

**Applus – IDIADA** (An engineering company providing design, testing, engineering and homologation services to the automotive industry) **Oct 11, 2021-Jan 11, 2022**

* Fixed the bugs in the company’s website which helped in its hosting.
* Developed a comment section& Annotation tool using **Django** for the website upgradation
* Created a resume parser for ranking resumes based on Job Description; using **NLP**.

# Projects

**CT Scan to 3D Model using Hounsfield Units**

* Designed and implemented a groundbreaking project that converts CT scan images into highly accurate 3D models using Hounsfield units.
* Leveraged advanced image processing techniques to extract data and generate intricate 3D representations, demonstrating expertise in medical imaging and computational geometry.
* Also detected soft tissues and converted it into a 3d model.

**Bird Detection**

* Idea generation & Leader of the project with 4 members.
* Implemented object detection algorithms. Qualitative comparison of algorithms like **YOLOV5**, **Faster-RCNN**
* Built a dataset, manually **annotated the dataset**, and implemented the algorithms.

**Soft Hand Rehabilitation**

* Designing a robotic glove that can aid a paralyzed person.
* The glove will work in different ways. The paralyzed person can control glove through other working hand or a machine, giving inputs for certain movements.
* INR 200K (2500 USD) funded project
* Leader of the project with 11 multidisciplinary members from Computer, Mechanical, Electrical engineering streams.

**Fire Hazard Detection from Nano-Satellite imagery**

* Collaborated with a team of 7 members.
* Implemented object detection algorithms such as YOLOV5, Faster-RCNN, and segmentation algorithms like Mask-RCNN, U-Net, RESUNET.
* Built and annotated a dataset for algorithm implementation.
* Achieved superior results compared to state-of-the-art models, with potential integration in a nanosatellite.

**Traffic Police Detector**

* Leader of the project with 4 members.
* Made a model that can detect a policeman using traffic cameras.
* The idea is to notify the Traffic control room about traffic police requirement in case the traffic concentration in certain areas increases beyond a threshold level.

**Heart Disease Predictor**

* Worked on a using dataset containing health parameters to detect & predict about heart disease possibilities.
* Implemented some ML algorithms like Logistic Regression**, K-Neighbors Classifier**, **Random Forest Classifier**.

**Movie Booking System**

* Worked on a using dataset containing health parameters to detect & predict about heart disease possibilities.
* Worked and designed detailed **UML Diagrams, Gant Chart, SRS document** for the same.

# International Research Papers

**Paper 1:**

Topic - Identification of Traffic Police Requirements based on Traffic Concentration Along with Traffic Police Detection

Publication - International Journal of Scientific Research in Computer Science, Engineering and Information Technology (Impact factor -7.254)

Link- <https://ijsrcseit.com/CSEITCN228653>

**Paper 2:**

Topic - Analysis of object detection techniques for bird species identification.

Publication- Journal of Physics: Conference Series (Scopus Indexed Journal)

Link- <https://iopscience.iop.org/article/10.1088/1742-6596/2325/1/012054/meta>

**Paper 3:**

Topic - Massive Open Online Courses (MOOCs): A Perspective from the Engineering Education

Publication- Journal of Engineering Education Transformations

Link- <https://journaleet.in/articles/massive-open-online-courses-moocs-a-perspective-from-the-engineering-education>

# Courses and Certificates

* [Deep Learning.AI TensorFlow Developers Certificate by Coursera. ( 4 courses out of 4)](https://coursera.org/share/f0f3b8ce4a98e7f2a0b0278dd2e47cff)
* [Basic Problem Solving](https://www.hackerrank.com/certificates/06e9d3e44b8d) certificate by HackerRank
* NPTEL IIT-Madras [Course](https://drive.google.com/drive/folders/1BkkKmYaiEmsaFDiwu-QgF7illA9NjZjo?usp=sharing) (12 Weeks program) on Introduction to Machine learning
* [Deep Learning Specialization course by Andrew Ng (4 courses out of 5) by Coursera.](https://drive.google.com/file/d/1BbfiAFL_Ci23R0dbVUAFzMbaK1_G1r43/view?usp=sharing)
* Microsoft Technology Associate: Security Fundamentals ([MTA](https://drive.google.com/file/d/1cIE6qLKkodBYNkzdG-JBT6fKlM_BQWm7/view?usp=sharing))

# Achievements

* Won Competitive State level scholarships in academics ( 2 times)
* Won the best paper award in a track for the paper ‘Identification of Traffic Police Requirements based on Traffic Concentration Along with Traffic Police Detection’ in National Students’ research conference on Innovative ideas & Inventions in Computer Science & IT with its sustainability; held in Feb 2022.
* Reached 3-star Coder on ‘Codechef’ and secured a global Rank of 2636 / 29626 participants in April Long Challenge (DIV 3) in 2021
* Secured a rank of 7 / 51 participants in 24 hours coding marathon by Vishwakarma Institute of technology, Pune, India.

# Volunteering Work

* MOOC (Massive Open Online Courses) coordinator for the Computer discipline for the university from 2021 during third & fourth year undergraduation.
* Member of the organizing team for 3 Education fairs in the University campus for studies abroad where the foreign delegates gave presentation about their universities.
* Worked as a volunteer in Pune Festival, A National level event held during a 10 days festival in India.