PRANAV GUPTA

AI/ML Researcher

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EDUCATION

Bachelor of Technology, Computer Science Engineering   **August 2021 – August 2025**
SRM Institute of Science and Technology, Chennai, India   CGPA: **9.31/10**

TECHNICAL SKILLS

Python | C | C++ | Javascript | NodeJS | HTML | CSS | PyTorch | Tensorflow | AWS | Computer Vision | Natural Language Processing | Deep Learning | Object Oriented Programming | Data Structures and Algorithms | MS Office | Arduino | Flask

ACHIEVEMENTS

Best Short Research Paper Award – IEEE CCEM 2020
- Published a research paper on "**Managing Congregations of People by Predicting Likelihood of a Person being Infected by a Contagious Disease like the COVID Virus**".
- Created a **simulation** using Python to show spread of virus amongst **100-100,000** people and **defined a normalized and comparable metric** that can predict likelihood that a person has contracted that virus.
- **Presented** the research paper in IEEE CCEM 2020 conference and won the award.

WORK EXPERIENCE.

Data Science Intern – AarogyaAI   **June 2020 – September 2021**
- Detected anomalies in data of **tuberculosis mutations** and verified them against another dataset.
- Automated the calculations of Sensitivity, Specificity, Positive Predictive Value, and Negative Predictive Value by using the results from two ML models stored in CSV files.
- Developed a frontend **dashboard** to display datasets and results stored in AWS S3 bucket.

LEADERSHIP AND COMMUNITY EXPERIENCE

Next Tech Lab – Syndicate (Head AI Researcher)   **November 2021 - Present**
- Headed the most exclusive and only research lab which is a two-time International QS Award winner in India.
- Interviewed, mentored, and recruited **30+** new recruits in their research and product development projects pertaining to machine learning and artificial intelligence.

Coding Ninjas SRM – Associate (AI/ML Domain)   **October 2021 - February**
- Mentored in **Ctrl**+**Alt**+**Delete** Hackathon with more than 200 teams and volunteered in various workshops.
- Managed multiple projects and coordinated a team of 4 members to create an image inpainting project.

PROJECTS

Amazon Product Comparer
- Conceptualized a new **normalized and comparable product reviewer metric** that considers ratings, helpfulness, verification, and time intervals between all reviews to show which product has been selling more.
- Implemented threading to increase process of scraping almost **5000 reviews** off one product into CSV files in AWS S3.
- Incorporated a sorted table based on metric calculated for each product.

Handwritten Digits with Genetic Algorithms
- Optimized the training of a handwritten digit's model by using Evolutionary genetic algorithms.
- Showed proof of concept as the model evolved from an accuracy of **92%** to **96%.**

Flower Image Generation
- Designed a text-image pair of flowers dataset using BLIP captions model.
- Fine-tuned Stable Diffusion V2 to generate flowers of different colors, sizes, and shapes.
- Used the Diffusers library and uploaded the model on Hugging Face.

Ship Verification
- Customized a model from scratch with **Siamese Network with Triplet Loss** architecture which predicts a **128**-dimensional vector that corresponds to identity of ship.
- **Web scraped** thousands of ship images to create a dataset and performed **Image Segmentation** to segregate only the image of ships from water, clouds, etc.
- Trained model with an accuracy of **84%** on test data.