

# Namit Rustagi

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[github.com/Karma121221](https://github.com/Karma121221)

## Education

**B.Tech**, Vellore Institute of Technology, Bhopal, Computer Science (with AIML)

2022 – Ongoing

- CGPA: 8.36

## Technology and Tools

**Languages:** C++, Python, Java, HTML, CSS, JavaScript, SQL.

**Programming Libraries:** C++ STL, OpenCV, TensorFlow, Pandas.

**Web Tools & Frameworks:** GitHub, Git, VSCode; Flask, ReactJS.

**Databases & Cloud:** MongoDB, PostgreSQL, SQLite.

**Coursework:** Data Structures and Algorithms, Operating Systems, Database Management Systems.

## Projects

### AgroAid

[github.com/Karma121221/Agro-Aid](https://github.com/Karma121221/Agro-Aid)

- Led the team to design and deploy 4 machine learning models—stacked ensemble for crop recommendation and Random Forest for yield prediction, crop health assessment, and soil fertility analysis—each achieving over **95% accuracy** and informing decisions for **1M+ simulated crop profiles**.
- Developed a multilingual web platform with **real-time weather data** and a voice-enabled chatbot (with Hindi support), cutting farmer query turnaround time by **60%**.
- Established a discussion forum for **500+ active users**, facilitating peer-to-peer knowledge exchange and multilingual support for agricultural queries.

### SignScribe

[github.com/Karma121221/SignScribe](https://github.com/Karma121221/SignScribe)

- Engineered a machine learning-based application using a custom ASL dataset of **5,000+ images**, achieving over **90% recognition accuracy** via advanced image processing and landmark detection.
- Implemented **real-time ASL-to-text translation** with sub-**500 ms** latency using OpenCV and Flask, improving accessibility for hearing-impaired users.

### Image Captioning

[github.com/Karma121221/ImageCaptioning](https://github.com/Karma121221/ImageCaptioning)

- Spearheaded and built an encoder-decoder model with ResNet50 and LSTM, trained on **1,500+ Flickr images** to generate precise captions.
- Created and tokenized a **200-word vocabulary**, optimizing model output for coherence.
- Launched a Flask web app with OpenCV preprocessing, allowing users to upload images and receive captions instantly.

## Achievements

- Secured a **Top 3 Teams Certificate of Appreciation** in the Hackathon: *AI Frenzy: Dream It, Generate It!*, for demonstrating the **Best Use of AI**, competing among 250+ participants.
- Achieved **Finalist Position** in the Hackathon: *IdeaHub 2.0: The Ultimate Tech Challenge*, competing against 600+ participants, showcasing innovative problem-solving skills.
- Won a **Gold Medal** in the *Men's Team Chess* event at *AdVITyA 2023*, competing against 400+ students.
- **NPTEL Elite + Silver Certificate** in *Privacy and Security in Online Social Media*.

## Certifications

- *The Machine Learning Process A-Z - 365 Data Science*
- *Applied Machine Learning in Python - Coursera*
- *Geodata Processing using Python - ISRO*

## Extracurricular Activities

- Participated in notable hackathons and competitions such as Flipkart Grid 6.0, Amazon Smbhav Hackathon 2024, Tata Elxsi Telipoint Season 2, and TCS CodeVita 2024, gaining valuable experience in teamwork. Selected for GirlScript Summer of Code 2024, contributing to open-source projects.
- Placed in the Top 10 in Chess at Aarambh 2023, a prestigious sports fest with participation from multiple colleges, demonstrating strategic thinking and competitive spirit.