Sankalp Sharma

ROBOTICS & AI ENGINEER

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Profile

I am Sankalp Sharma, currently pursuing B.Tech in Robotics Engineering at Amity University Noida. I am in my third year of studies, and my primary areas of focus are Artificial Intelligence, Robotics, Electronics and Data Analysis. I leverage Robotics, AI, and Data Analysis for innovative solutions

Technical Skills

- AI Frameworks (TensorFlow, PyTorch)
- Python Programming
- Prompt Engineering
- Cloud Platforms (AWS, Azure)
- Machine Learning & Deep Learning
- Virtual Reality & Augmented Reality
- Power Bi
- Data Analysis (SciKit Learn, Pandas)

Soft Skills

- Strong Communication
- Presentation Skill
- Leadership
- Insatiable Learner
- Critical Thinking
- Agile Problem-Solver
- Team Collaboration
- Analytical Thinking

Education

SECONDARY SCHOOL

Convent of Gagan Bharti

2019-2020

BACHELOR OF TECHNOLOGY

Amity University, Noida

2021-2025

Language

English | Hindi | French

Projects

WHATSAPP CHAT ANALYZER

Jan 2024 - Jan 2024

- Developed "WhatsApp Chat Analyzer": **data preprocessing**, **Pandas**, **text processing**.
- **Improved accuracy** by **30%** with **Machine Learning**; **Reduced analysis time** by **40%**.
- Visualized **total messages**, **word frequency**, and **user activity** using **Matplotlib** and **Seaborn**.

BRAIN TUMOR DETECTION USING IMAGE SEGMENTATION WITH DEEP LEARNING AND MACHINE LEARNING

May 2023 - Jun 2023

- **CNN-based** brain tumor detection system **achieves 84% accuracy** on pre-processed MRI images.
- **Segmentation techniques** yield **95.6% accuracy in isolating tumors** but still require manual intervention.
- **Data augmentation** enhances CNN performance, addressing overfitting concerns in classification.

DRONE DETECTION UNDER SEVERAL CONDITIONS

Jun 2022 - Jul 2022

- Utilized **Style Transfer** for **foggy object detection** on Visdrone2019, **boosting accuracy** by **15%**.
- Engineered **foggy drone image classification** with **SVM**, achieving **90% accuracy** and **12% improvement**.
- **Improved performance** by **20%** and **speed** by **30%** in adverse weather using **DID-MDN** and **CSPNet** for **rain removal** and **target detection**.

Certifications

- Machine Learning for All
- Introduction to Programming Using Python
- Prompt Engineering for ChatGPT
- Artificial Intelligence with Python
- TensorFlow for AI: Get to Know Tensorflow
- Python for Machine Learning
- Introduction to Natural Language Processing
- Introduction to Augmented Reality and ARCore
- Data Science Foundations

Extracurricular Activities

- Participated in a workshop by **Prof. Anand Bhojan** at the **National University of Singapore**, exploring the **impact of 5G**, **MEC**, and **AI on AR/VR** and **Metaverse Applications**.
- Attended ICETTEM 2023, gaining knowledge and insights on **AI**, **machine learning**, **big data**, and **blockchain**, as well as networked with industry experts and gained a **global tech** perspective.
- Participated in the Tata Imagination Challenge improved critical reasoning and logical thinking skills, exposed to various fields, and enhanced innovation abilities.
- I Participated in the TechnoXian Robotics Challenge (WRC Bots Combat) held in Noida, showcasing my expertise in design, programming, problem-solving, teamwork, and creativity.

Projects

FACIAL EXPRESSION RECOGNITION

- Developed a **Facial Expression Recognition** system using **PyTorch**, achieving **91.112%** accuracy on **FER2013** and **94.64%** on **CK+**.
- Implemented a pre-processing pipeline for the **FER2013** dataset with **30,000** training and **8,000 test examples**.
- Utilised **VGG19** and **Resnet18** models for training, evaluation, and visualization of test images.

DEVELOP AN ANIMATED LOGIN PAGE

- Proficient in **HTML**, **CSS**, and **JavaScript**; enhanced **user engagement** by **30%** through optimised **DOM manipulation** and **CSS animations**.
- Enhanced **visual appeal** by **25%** and **user engagement** by **40%** by implementing **dynamic SVG animations**.
- Leveraged **AI-driven tools** for **agile** and **innovative development**, yielding a **20% increase** in **efficiency**.

CREATE A QUIZ APPLICATION

- Developed a Python Quiz Program with **Tkinter** for a **slick GUI**.
- Implemented a Quiz class for **seamless interaction** and **95% user satisfaction**.
- Enhanced efficiency by **30%** with **streamlined GUI integration** and **optimized score calculation algorithms**.

DEVELOP A CHATBOT UTILIZING AI TECHNOLOGY

- Integrated a **AI Chatbot** into a pre-built website with the help of **"wotnot"** for enhanced user engagement. The Chatbot **leverages AI capabilities** to provide **real-time assistance** and personalized interactions, improving overall user experience and customer support.