Kushal Das

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PROFILE

Motivated CS undergrad with a passion for AI, ML, Deep Learning, aiming to solve real-world problems through intelligent, scalable tech. Eager to apply and grow my skills by building impactful systems that improve lives.

EDUCATION

University of Engineering & Management   *Jaipur, India*
Bachelor of Technology (B.Tech) in Computer Science and Engineering (AIML)   2022 – 2026

- CGPA: 7.5 / 10 (Till 6th semester)
- Relevant Courses: Machine Learning, Deep Learning, Data Structures, Algorithms, CV, NLP, Data Science.

Higher Secondary (XII), Khatra High School(H.S) WBCHSE   *West Bengal, India*
- Percentage: 93%   2020 – 2022

TECHNICAL SKILLS

Languages: Python, Java, SQL
ML/DL Libraries: Scikit-learn, TensorFlow, Keras, PyTorch
Data Handling & Analysis: Pandas, NumPy, Matplotlib, Seaborn
Frameworks: Flask, Streamlit, MySQL, REST APIs, Firebase, Bert
Tools & Platforms: Git, GitHub, VS Code, Jupyter Notebook, Google Colab, Kaggle, Linux

CERTIFICATIONS

- Deep Learning Specialization – DeepLearning.AI (Coursera)
- Generative AI Fundamentals – IBM (Coursera)
- Applied Machine Learning – Johns Hopkins University (Coursera)
- Deep Learning with PyTorch, TensorFlow, Keras – IBM (Coursera)

EXPERIENCE

NIT Durgapur   *West Bengal, India*
Research Intern   *May 2025 – July 2025*

- Built a generative GNN using heterogeneous molecular graphs and 3-body interactions.
- Trained model on QM9 dataset using PyTorch Geometric, achieving high diversity scores.
- Outperformed GraphAF and DGMG on Validity, Uniqueness, and Novelty metrics.

PROJECTS

Smartwatch-Based AI-Powered Women Safety System   Jul 2024 – Nov 2024

- Built a gesture-activated ML model for real-time audio-based distress detection on a smartwatch.
- Developed GPS-triggered SOS alerts via voice/emotion cues, sending location to contacts/authorities.
- Enhancing with NLP and geo-alert zones to proactively warn users near high-risk areas.

Chetona: Transformer-based Multilingual AI Chatbot   Jan 2024 - Jun 2024

- Developed a transformer chatbot with memory, Bn-Hi-En multilingual support, and dynamic persona control.
- Built custom tokenizer, GPT-style architecture, and memory-aware generation from scratch.
- Deployed real-time interface with persistent chat logs and context-based smart replies.

DeepAero: Satellite-Based Aerosol Prediction using UVAI Through Deep Learning   Jan 2025 - Jun 2025

- Built end-to-end pipeline to predict AAOD using OMI UVAI and MODIS/MERRA-2 satellite features.
- Modeled spatio-temporal aerosol patterns over India (2010–2024) using deep neural networks.
- Currently optimizing with angular radiative inputs and AERONET ground validation.

ACHIEVEMENTS & HACKATHONS

- **Hackathon Participation:** HackUEM, AceHack, SIH Internal Round
- **Campus Winner:** AceHack4.0

EXTRACURRICULAR & LEADERSHIP

- Tech Club Member: Core member of ML & AI Society– organized hands-on sessions and mentorship hours.
- Mentor**:** Conducted workshops on "Intro to Machine Learning with Python" for 1st year students.
- Event Organizer: Led execution for "AI Day @UEM" with 100+ student participation, live demos & speaker sessions.

SOFT SKILLS

Analytical thinker with a data-driven mindset and adaptive problem-solving across domains.

- Cross-domain adaptability across NLP, CV, Web, and Molecular domains
- Team player with experience in collaborative projects and hackathons
- Known for proposing novel architectures and research-driven ideas

LANGUAGES

- **English:** Fluent
- **Hindi:** Fluent
- **Bengali:** Native Speaker