DEBJIT MANDAL

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EDUCATION

Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha *2022 - 2026*
B.Tech, Computer Science and Engineering CGPA: 9.13/10

EXPERIENCE

CAMPUS AMBASSADOR, IMUNA *JULY, 2023 - AUGUST, 2023*

- Promoted IMUN Online Conferences in different schools/universities and got 10+ registrations.
- Best Intern for a week.

PROJECTS

- **NeuroSeg:** A Deep Learning-based Brain Tumor Segmentation System.
  - Designed and trained a UNet-based deep learning model for automatic brain tumor segmentation from MRI images.
  - Developed a full-stack web application using Flask (backend) and HTML/CSS/JS (frontend) for real-time tumor detection.
- **ECGShield:** An interactive Streamlit-based system for ECG noise removal using advanced filtering techniques.
  - Implemented various signal filtering techniques including Notch Filter, High-Pass, Low-Pass, and Wavelet Denoising.
  - Designed a user-friendly Streamlit interface to upload ECG files, visualize signals, and download the cleaned output.
- **MoodMelody:** A Real-time emotion detection and content recommendation system.
  - Implemented emotion recognition using TensorFlow/Keras.
  - Integrated Spotify API for personalized music recommendations.
- **DSH:** A Command-Line shell made using C++.
  - Implemented custom command parsing for user-defined commands.
  - Handled concurrency with multithreading for running background processes.
- **TrafficVisionAI:** A Real-Time Traffic Sign Recognition and Driver Assistance using AI.
  - Integrated traffic sign recognition using TensorFlow and OpenCV.
  - Developed lane detection and collision warning systems.

PATENTS

- **UK Design Patent – Autonomous Vehicle Predictive Steering Device** *Design No. 6424920*
  - Registered on 20 February 2025; Granted on 07 March 2025. Co-held with MR. PRITAM CHAKRABORTY, MR. NILOTPAL BASU, and DR. ANJAN BANDYOPADHYAY.
  - Developed an innovative steering mechanism that enhances predictive capabilities in autonomous vehicles.

SKILLS

- **Programming Languages:** Python, C/C++
- **Web Technologies:** HTML, CSS
- **Tools:** Git
- **Frameworks & Libraries:** TensorFlow, OpenCV, scikit-learn, Pandas, NumPy
- **Databases:** SQLPlus