



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2026	B.TECH	IIT Kharagpur	8.44 / 10
2021	CBSE	Krishna Public School	96.6%
2019	CBSE	Scholars English Medium School	97.4%

INTERNSHIPS

IASc-INSNA-NASI Focus Area Science Technology Summer Fellowship	[May '24 - Present]
Supervised by Prof P.Rajalakshmi Technology Innovation Hub on Autonomous Navigation (TiHAN), IIT Hyderabad	
<ul style="list-style-type: none">Integrated 2D camera images with 3D LiDAR point clouds, creating colored point clouds via precise camera calibration, and utilized RViz software and Robot Operating System (ROS) for effective communication management between the Husky A2000 and LiDAR sensorsIncorporated CAN data and ultrasonic sensor for PIXKIT, developing autonomous and self-driving functionality via CAN bus protocolPerformed CAN data analysis for Tata Nexon and applied reverse engineering techniques to filter and interpret the data effectively	
Artificial Intelligence with Python Industrial Training Program, ARIES IIT Roorkee Coincent AI	[Jan '23 - Mar '23]
<ul style="list-style-type: none">Developed and implemented an Iris classifier project using Logistic regression and DecisionTreeClassifier models with 100% accuracyImplemented the Haar Cascade algorithm for facial detection with OpenCV library to identify faces in an image or a real-time video	

PROJECTS

Autonomous Vehicle Control Udacity Self Project	[May '24]
<ul style="list-style-type: none">Predicted throttle and steering angles using a NVIDIA Model, a CNN model trained on a dataset of 3,000+ images with driving parametersAchieved 96% accuracy in detecting and classifying traffic signals using batch generation, visualizations and augmentation techniquesIntegrated the model with a virtual driving simulator via SocketIO and Flask, ensuring autonomous driving and accurate steering control	
ConnectX Kaggle Self Project	[Jun '24]
<ul style="list-style-type: none">Implemented a Q-learning RL model using TensorFlow and Keras libraries, of 30,000+ parameters, to train an agent for ConnectX gameUtilized the Kaggle Environments library for model evaluation through self-play, the training data including states, actions, and rewardsEmployed mini-batch training with a model architecture featuring convolutional and dense layers for optimal move prediction of agent	
Human Action Recognition Self Project	[Apr '24]
<ul style="list-style-type: none">Developed a human action recognition model using a fine-tuned AlexNet architecture, achieving notable 92% accuracy on the test datasetUtilized TensorFlow and OpenCV libraries for effective model training, data preprocessing, and feature extraction, enhancing performancePerformed comprehensive evaluation using precision, recall, and F1-score metrics, ensuring the overall model's balanced performance	

COMPETITION/CONFERENCE

KIK Bot: AI-Powered Personalized Content Generation First Position Innovate4Swadeshi Hackathon 2023 Sane Observer
<ul style="list-style-type: none">Ensured protection of user input data with robust data collection and storage, using OpenAI's GPT-3.5-turbo integrated with LangChainIntegrated adaptability to user preferences, providing relevant and real-time responses for enhanced user experience and engagement
Identification of medicinal plants through image processing using machine learning algorithms Smart India Hackathon 2023
<ul style="list-style-type: none">Employed a methodological framework to adapt the AlexNet model, harnessing the inherent features learned by its convolutional layersApplied an approach to fine-tune the model, enhancing its capability to precisely classify and identify wide ranges of medicinal plants

AWARDS AND ACHIEVEMENTS

<ul style="list-style-type: none">Achieved JEE Mains 2022 qualification with 98.5 percentile, placing in the top 1.5% percentile among 900,000+ participants all over IndiaSuccessfully cleared JEE Advanced 2022 with 1698 category rank, ranking in the top 7.7% among over 150,000+ participants all over IndiaAchieved a place among the top 30 students nationwide for CSRL Super 30 Bangalore, and subsequently awarded the FFE ScholarshipAchieved a distinguished All India Rank of 195 in the IMU-CET 2021 showcasing the strong foundation in theoretical and logical knowledgeRanked 60th in Indian Olympiad Qualifier in Mathematics 2020, advancing to compete in Indian National Mathematical Olympiad 2021Received CBSE Certificate of Merit for outstanding academic performance, ranking in the top 0.1% in Science and Mathematics in Class X

SKILLS AND EXPERTISE

Languages: C++ C Python HTML CSS	Softwares: SolidWorks MATLAB Ansys NX Siemens KiCAD NI LabVIEW Fusion 360
Development Tools: STL Bootstrap Arduino	AI Tools: Pandas NumPy Matplotlib Scikit-learn TensorFlow OpenCV Keras

COURSEWORK INFORMATION

Algorithms-I Programming and Data Structures Linear Algebra Numerical and Complex Analysis Advanced Calculus Transform Calculus Theory of Partial Differential Equations Introduction to Innovation and Entrepreneurship Machine Learning Specialization (DeepLearning. AI) Computer Vision (Kaggle) Data Visualization (Kaggle) Feature Engineering (Kaggle) AI Ethics (Kaggle) SQL (Kaggle)

POSITIONS OF RESPONSIBILITY

Events Head AI & Metaverse Developer KodeinKGP: The Web 3.0 Society IIT Kharagpur	[Mar '23 - Present]
<ul style="list-style-type: none">Orchestrated a 4-week Web 3.0 Summer Training Program, National Science Week Hackathon and Innovate4Swadeshi HackathonConducted knowledge-sharing sessions on AI and facilitated brainstorming on problem statements to address real-life challenges	

EXTRA CURRICULAR ACTIVITIES

<ul style="list-style-type: none">Led successful Combined Annual Training Camp for NCC as Best Cadet, overseeing 98 cadets with maintaining discipline standardsSelected for the prestigious Republic Day Camp 2024 after a rigorous selection process by the ADG of West Bengal & Sikkim Directorate
