

Ashish Kishore

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Education

Bangalore Institute of Technology

Bachelor of Engineering in Electronics and Telecommunication

Cumulative GPA: 8.23 / 10.0

Class of the Degree: First Class with Distinction (FCD)

Bangalore, Karnataka

Graduated: July 2026

Publications

1. Real-Time Traffic Sign Recognition and Autonomous Vehicle Control System using Convolutional Neural Networks

Journal: Multimedia Tools and Applications (Springer Nature) – New York

Collection: Track 7 – Connected and Autonomous Vehicles

DOI: 10.1007/s11042-025-20853-8

Published On: 25th April, 2025

3. Automated Jackfruit Counting and Yield Estimation via Advanced YOLOv8x-based Computer Vision in Smart Agriculture

Publisher: IEEE | IEEE Conference on Engineering Informatics (ICEI 2025)

Conference Location: Melbourne/Hawthorn, Australia

DOI: 10.1109/ICEI68356.2025.11603744

Published On: 20th July, 2026 | Page(s):1 - 11

2. A Multimodal Deep Learning Framework for Symptom-Based Disease Prediction and Clinical Decision Support

Journal: Neural Computing and Applications (Springer Nature) – London

Collection: Artificial Intelligence

DOI: 10.1007/s00521-026-12231-8

Published On: 12th June, 2026 | Vol. 38, Issue 12, Article No. 481

4. Privacy-Preserving Multimodal Cognitive Robot for Real-Time Empathetic Human Robot Interaction Using Deep Facial Expression Recognition and Speech Sentiment Intelligence

Journal: Multimedia Tools and Applications (Springer Nature) – New York

Collection: Track 3 – Biometrics and HCI

Status: Under Review

Achievements & Talks

- **Keynote Speaker – Google Bangalore:** Delivered an invited keynote on “*The Gemini Effect: Empowering the Future of Tech*” at Google’s peer-innovation event, sharing insights from my Q1 journal publication; also discussed Autonomous Vehicles, AyuSeva AI medical chatbot and Orion, an emotion recognition robot.
- **2nd Place – Pratira 2025 (National-Level Project Competition):** Secured 2nd place for the AyuSeva AI medical chatbot, recognised for its scratch development and innovation in real-time disease prediction.
- **Winner – TURING MUCH (ML Competition by IEEE BIT CS Society):** Achieved 1st place by developing a high-performance ML model with robust generalisation, interpretability, and edge deployment on Kaggle.
- **Google Cloud Agentic AI Day:** Participated in Google Cloud Agentic AI Day (Hack2skill), contributing an innovative Smart City traffic control solution leveraging Agentic AI for real-world problem solving.

Certifications

- **Artificial Intelligence Fundamentals** – IBM SkillsBuild Issued Nov 2025
- **Juniper Networks Certified Associate – Mist AI (JNCIA-MistAI)** – Juniper Networks Issued Aug 2025

Work Experience

Mu Sigma Inc

Decision Scientist

2 Jul 2026

- Decision Scientist at Mu Sigma, one of the world’s largest pure-play analytics and decision sciences companies, crafting data-driven solutions that transform business decisions at scale.

Electronics and Radar Development Establishment (LRDE), DRDO

Research Intern – Directorate of Fire Control Radars (D-FCR)

Jan 2026 – May 2026

- Developed a hybrid deep-learning radar target tracking framework (AttLSTM-KF) integrating Temporal Convolutional Networks, LSTM-based velocity prediction, self-attention mechanisms, and differentiable Kalman Filtering for robust nonlinear maneuvering target estimation.
- Implemented adaptive process/measurement noise estimation, maneuver-aware innovation gating, and end-to-end Bayesian filtering, achieving 0.950 m RMSE with ~80.1% improvement over EKF baselines while maintaining real-time inference speeds on GPU and CPU.
- Technologies:** Python, PyTorch, LSTM, TCN, Multi-Head Self-Attention, Kalman Filter, Deep Learning, Radar Signal Processing, Matlab.

U R Rao Satellite Centre (URSC), ISRO

Research Intern – Payload Data Management Group (PDMG)

Oct 2025 – Nov 2025

- Developed an SSR (Solid-State Recorder) Data Simulator for validating satellite payload data flow before deployment on actual hardware.
- Implemented CADU generation, logical channel data mapping, validity tagging, and end-to-end data rate control through simulation, synthesis and post-synthesis testing.
- Technologies:** VHDL, Python (GUI), Space-grade data systems, ISRO in-house tools.

CodSoft

Machine Learning Intern

Sep 2024 – Oct 2024

- Built models for SMS Spam Detection, Customer Churn Prediction, Credit Card Fraud Detection, and Movie Genre Prediction.
- Technologies:** Python, Scikit-learn, LSTM, SVM, Logistic Regression, Pandas, NLP, Random Forest.

Prodigy Info Tech

Machine Learning Intern

Jun 2024 – Jul 2024

- Developed AI systems for Hand Gesture Recognition, Calorie Estimation from food images, House Price Prediction, Customer Segmentation, and Cat/Dog Image Classification.
- Technologies:** Python, TensorFlow, OpenCV, Keras, Scikit-learn, LSTM, K-Means, Pandas, Matplotlib.

Projects

Project ORION – Optimised Robotic Intelligence for Operative Neural-empathy

- Pioneered an emotion-aware robotics system integrating neural-empathy concepts with Edge AI for natural human-robot interaction, featuring facial recognition, conversational AI, speech processing, and real-time emotion detection.
- Privacy-preserving multimodal cognitive robot integrating deep facial expression recognition with speech sentiment intelligence for real-time empathetic human-robot interaction.
- Technologies:** Edge AI, Computer Vision, NLP, Speech AI, DeepFace, Mediapipe, CMU Sphinx, IoT, Conversational AI, LLM, FER, Multi-Modal AI.

AyuSeva – AI Medical Chatbot for Disease Prediction

- Developed a custom hybrid AI medical chatbot with 63.5 Million parameters for high-accuracy disease prediction using deep learning, integrating Gemini for personalized health recommendations.
- Fusion Model with DenseNet, BiLSTM, Attention Mechanism and NLP, handled structured and unstructured data.
- Technologies:** Dense-Net, Bi-LSTM, Attention Mechanism, NLP, Generative AI, PyTorch, TensorFlow, ONNX, Flask.

Autonomous Car

- Built a real-time Traffic Sign Recognition (TSR) system using a custom Deep-CNN (378k params) that achieved 99.63% test accuracy on GTSRB and 99.68% on CTSD with 24–30 ms inference latency.
- Integrated the TSR into an end-to-end low-cost autonomous control platform (Arduino) with IR lane-following and ultrasonic sensor fusion for obstacle avoidance and dynamic speed/stop commands, demonstrating real-world, low-latency ADAS behaviour.
- Technologies:** Deep-CNN, OpenCV, TensorFlow, Arduino, IR Sensors, Ultrasonic Sensors, Sensor Fusion, Embedded Systems.

Jackfruit Yield Estimation

- YOLOv8x jackfruit detector & yield estimator on a custom dataset — Performance: 99.28% Precision, 85.71% Recall, 94.37% mAP@50, and 81.01% mAP@50–95.
- Deployed as a Streamlit app for automated farm-scale counting and edge-ready integration.
- Technologies:** YOLOv8x (Ultralytics), PyTorch, Albumentations, AdamW + cosine LR, CUDA, OpenCV, Streamlit.

Technical Skills

Programming:	Python, SQL (MySQL), C/C++ , MATLAB, JavaScript, HTML, CSS
Machine Learning:	Regression, Classification, Clustering, Deep Learning, Transfer Learning
Deep Learning:	CNN, Bi-LSTM, DenseNet, EfficientNetV2, ResNet-34, Conv1D, Attention Mechanisms, Multimodal Fusion, ONNX
Generative AI & LLMs:	Generative AI, RAG, GraphRAG, Fine-tuning (DoRA, DPO), Gemma-2, Prompt Engineering
Computer Vision:	Object Detection (YOLOv8x), Facial Expression Recognition (FER), Facial Recognition, HOG-SVM, DeepFace, MediaPipe, OpenCV
Speech & NLP:	Speech Emotion Recognition, Audio Feature Extraction (MFCC, Spectrogram), CMU Sphinx, Intent Classification, NLP
Multimodal & Privacy AI:	Vision + Speech Fusion, Cross-modal Learning, Attention-based Feature Integration, Privacy-Preserving Multimodal Inference, Edge AI
AI/ML Frameworks:	TensorFlow, PyTorch, Keras, Scikit-learn, Albumentations, Ultralytics
Optimisation:	Model Optimisation, Hyperparameter Tuning, Cross-Validation, Data Augmentation, Image and Data Pre-Processing
Dev Tools:	Flask, Streamlit, Multi-Threading, Git, Neo4j
Embedded & IoT:	Arduino, ESP8266, Jetson Nano, Sensor Fusion, IoT Automation, Edge AI
Cloud & Hardware:	Google Cloud Platform (GCP), NVIDIA A100 / CUDA