

Manas Kamal Das

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Education

Phone: +91 6900017314 Email: manaskd2019@gmail.com

Vellore Institute of Technology, Chennai

B.Tech in Computer Science and Engineering

Sep 2022 – 2026

8.7/10 CGPA

Delhi Public School, Guwahati

12th Standard Board Examination (CBSE)

Mar 2022

93.4 %

Pragjyotish School West Boragaon, Guwahati

10th Standard Board Examination (CBSE)

Mar 2020

95.8 %

Experience

Research Project Developer – Data Science and Analytics

Jan 2025 – May 2025

VIT Chennai | Funded Research Project

[Link](#)

- Developed a hybrid time-series forecasting pipeline using statistical and deep learning models to predict urban traffic.
- Conducted end-to-end data preprocessing, exploratory data analysis, and model development on large-scale traffic data.
- Optimized execution using parallel processing, achieving a 10× computational speedup and a scalable system design.
- Achieved 98.4% predictive accuracy with metaheuristic optimization, reflecting strong system performance and reliability.

Research Intern – Deep Learning and NLP

Jun 2024 – Sep 2024

VIT Chennai | Funded Research Project

[Link](#)

- Built a robust transformer-based AI model to detect fake reviews on e-commerce platforms, boosting platform credibility.
- Implemented NLP preprocessing and model fine-tuning using PyTorch and Hugging Face Transformers.
- Optimized model through metaheuristic hyperparameter tuning to enhance generalization and performance.
- Achieved 98% accuracy, 98% precision, 99% recall, and 98% f1-score on real-world Amazon and hotel review datasets.

Awards and Achievements

Sir C. V. Raman Award

Jul 2025

Office of Academic Research, VIT Chennai

[Link](#)

- Awarded for developing a scalable hybrid AI-driven forecasting pipeline integrating deep learning and optimization for intelligent urban traffic analytics.

Projects

MedClarify: GenAI Assistant for Health Claim Verification and Clinical Report Analysis

[Source Code](#)

- Built an AI assistant for medical information verification and report analysis using LLMs and RAG
- Tech Stack:** Python, Streamlit, Hugging Face Inference APIs (Mistral-7B-Instruct-v0.3 LLM, BioMistral LLM, biomedical NER model), SentenceTransformer, Pinecone vector database, Google Search API

Hybrid AI Pipeline for High-Performance Urban Traffic Forecasting

[Source Code](#)

- Developed a hybrid SARIMA-BiLSTM residual learning pipeline with attention mechanism for urban traffic forecasting.
- Tech Stack:** Python, TensorFlow Keras, Statsmodels, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, NiaPy

Optimized DeBERTa Transformer Model for AI-Powered Fake Review Detection

[Source Code](#)

- Fine-tuned the DeBERTa transformer model with metaheuristic optimization for fake review detection.
- Tech Stack:** Python, PyTorch, Hugging Face Transformers, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, NiaPy

Secure Full Stack Online Complaint Registration and Management System

[Source Code](#)

- Developed a secure full stack complaint management system for registration, tracking and resolution of user complaints.
- Implemented role-based access control (RBAC), JWT authentication, and RESTful API integration.
- Tech Stack:** React.js, Node.js, Express.js, MongoDB, RESTful APIs, JWT, Git, GitHub, VSCode, Bootstrap, JIRA

Technical Skills

- Languages:** Python, SQL
- CSE:** Data Structures & Algorithms, OOP, Computer Architecture, OS, DBMS, Computer Networks, SDLC
- Tech Stack:** PyTorch, Tensorflow Keras, Hugging Face Transformers, Scikit-learn, NumPy, Pandas, Statsmodels, Matplotlib, Seaborn, React.js, Node.js, MySQL, HTML, CSS, RESTful APIs, Jupyter Notebook, VSCode, Git
- Machine Learning & Deep Learning:** Generative AI, Large Language Models (LLMs), RAG, Transformers, Vector Database, Computer Vision, Neural Networks, Transfer Learning, Model Training, Model Fine-tuning
- Statistics & Data Science:** Exploratory Data Analysis (EDA), Feature Engineering, Data Visualization, Data Preprocessing, Predictive Modeling, Statistical Modeling, Time Series Forecasting, Model Building and Evaluation

Publications

- Parallel Hybrid AI Pipeline for Real-Time Urban Traffic Forecasting, *IEEE Access* (Q1, SCI-indexed)
- Optimized Transformer Model for E-Commerce Fake Review Detection, *Scientific Reports* (Top 3 cited globally)

[Link](#)

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Certifications

- SQL for Data Science** | Coursera – University of California, Davis
- Full Stack Developer - MERN Stack** | SmartInternz in partnership with MongoDB
- Python with Machine Learning** | Ministry of MSME – Government of India

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