

Souri Rishik Volety



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EDUCATION

Manipal Institute of Technology

Bachelor of Technology, Department of Data Science Engineering

Manipal, Karnataka

CGPA: 7.84/10.0, Jul 2023 - Sep 2027

Mahatma Gandhi Memorial PU College, Karnataka State Board

Completed Higher Secondary Education in PCMC

Udupi, Karnataka

Percentage: 94.3%, Jul 2021 - Apr 2023

RELEVANT COURSEWORK

- Data Structures & Algorithms
- Database Systems
- Computer Networks
- Machine Learning
- Operating Systems
- Deep Learning
- Data Analysis
- Probability & Statistics

EXPERIENCE

Coding Subsystem Head

Robomanipal

Sep 2025 - Present

Manipal Institute of Technology

- Enhanced and scaled the official Robomanipal website (robomanipal.com) boosting engagement with a **100%+ growth** in traffic, and a **98/100 Real Experience Score**, ensuring fast load times, robust UX.
- Represented MIT MAHE at **Technoxian 8.0 (Noida)**, competing in Line Follower and Maze Solver, and advanced to quarterfinal stage among 200+ teams, demonstrating embedded systems expertise.
- Secured **2nd Runner-Up at Robonautica, IISc Bangalore** among 179 teams nationwide, for developing a leader-follower robot using ArUco marker-based tracking to maintain distance, follow paths, and avoid collisions.

Research Intern

Manipal Institute of Technology

June 2025 - July 2025

Manipal, Karnataka

- Engineered multiple machine learning models (Gradient Boosting, CatBoost, XGBoost, Random Forest) to detect phishing URLs, achieving up to **97.4%** accuracy and **97.7%** F1-score on 30,000+ samples.
- Performed feature extraction on lexical, structural, and content-based URL attributes, improving F1-score by **12%** compared to baseline models.
- Designed and deployed a Python-based phishing detection web application with real-time URL classification, reducing manual verification time by **70%**.

PROJECTS

Sign Language Gesture Analysis, Python, TensorFlow, Keras, OpenCV, Numpy, Pandas

Oct 2025 - Nov 2025

- Built a lightweight custom CNN (~227K parameters) to classify 24 static ASL hand gestures from the Sign Language MNIST dataset using normalization, augmentation, and regularization techniques.
- Achieved **99.69%** validation accuracy and demonstrated real-time webcam inference, correctly recognizing **20/24 gestures** under live conditions.

Digit Recognition, Python, TensorFlow, Keras, Numpy, Pandas

Mar 2025 - Apr 2025

- Developed a Feedforward Neural Network (FNN) in TensorFlow/Keras with preprocessing, batch normalization, dropout, and L2 regularization for MNIST digit recognition.
- Achieved **98.13%** classification accuracy, validating the effectiveness of optimized FNN architectures.

Fastest Line Follower, C, Python, STM32CubeIDE

Jul 2024 - Sep 2024

- Optimized PID algorithm with manual, Ziegler-Nichols, and incremental tuning, improving motor precision by **30%** at high speeds and reducing oscillations for stable real-time control.
- Created a Bluetooth-based Python GUI for real-time PID tuning, cutting adjustment time by **50%**, enabling live monitoring, and logging performance data for analysis.

Open Volley, Python, OpenCV

Jan 2024 - Feb 2024

- Built a computer vision system in Python/OpenCV to track volleyball trajectories with **95%** detection accuracy, processing **120+** frames per second for real-time analysis.
- Automated ball tracking and player count per team, reducing manual match annotation time by **60%** and improving analysis accuracy.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, SQL (Oracle), TypeScript/JavaScript, HTML/CSS

Frameworks: React.js/Next.js, NumPy, Pandas, Keras, Scipy, Pytorch, Matplotlib, TensorFlow, OpenCV, ROS/ROS2

Developer Tools: Git, GitHub Actions, AWS, VS Code, STM32CubeIDE, Ubuntu

Certifications: Generative AI with Large Language Models, Natural Language Processing in TensorFlow