

Kunal

 Kunal-Somani —  [kunal-somani-227373344](#) —  kkunal_be23@thapar.edu —  +91 86193 27602

EDUCATION

2023 - Present	Bachelor's in Robotics and Artificial Intelligence at Thapar Institute of Engineering and Technology	(GPA: 7.66/10.0)
2023 - Present	Bachelor's in Data Science and Applications at Indian Institute of Technology, Madras	
2022	Class 12th, CBSE Board	(91.6%)
2020	Class 10th, CBSE Board	(91.8%)

WORK EXPERIENCE

Summer Research Intern, Experiential Learning Centre	June 2025 – July 2025
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- Architected a novel multi-modal AI system for early Parkinson's detection, a key challenge in health care technology, using voice and IoT sensor data.
- Developed and integrated deep learning models with signal processing techniques to identify early-stage symptoms, achieving high predictive accuracy.
- Documented and presented the unique methodology, demonstrating significant innovation and problem-solving capabilities.

Member, MARS Society	November, 2024 – June, 2025
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- Collaborated on designing automation solutions for robotics projects, including the 3D modeling of robots to visualize and plan system architecture.
- Developed and validated control logic using robot simulation software before implementing it on physical hardware via microcontroller programming and sensor integration.

PROJECTS

Automated LLM Code Generation & Deployment Pipeline	 GitHub
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- Engineered an end-to-end automated system using Python (FastAPI, asyncio) that receives application briefs via REST API, uses the Gemini LLM to generate web application code, and automatically deploys it to GitHub Pages.
- Implemented a full CI/CD pipeline leveraging the GitHub API and GitPython for automated repository creation, code committing, GitHub Pages activation, and handling iterative code revisions based on subsequent API requests.
- Containerized the application with Docker for deployment on Hugging Face Spaces and managed secrets securely using environment variables.

AI Agent Development Portfolio	 GitHub
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- Engineered four distinct, robust LLM-RAG agents that automate complex business and technical workflows, showcasing proficiency in autonomous decision-making and data integrity.
- Core Technology Stack: Utilizes Google Gemini 2.5 Flash for high-fidelity reasoning, Ollama (Nomic) for reliable vector embeddings, and n8n (Self-Hosted) for workflow orchestration.
- Portfolio Projects: GitHub Issue Triage Agent, Smart Scheduled Research Assistant, Live Hacker News 'Sentiment' Agent, Unstructured Text to Google Sheets Agent.

Advanced Financial Trend Analyst Agent	 GitHub
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- Engineered a Gemini 2.5 Pro Dual-Tool Agent on n8n (self-hosted), orchestrating dynamic tool-use between a Custom SQL Executor for quantitative analysis and a Python RAG Retriever (Ollama/PGVector) for policy compliance.
- It intelligently navigates complex queries across transactional data and regulatory documents to provide actionable analysis.

SKILLS

- Programming Languages:** C, C++, Python, HTML, CSS 3, markdown
- AI/MLOps:** PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, OpenCV, Deep Learning, Reinforcement Learning, FastAPI
- Robotics and Design:** ROS 2, Arduino IDE, MATLAB, Simulink, SolidWorks
- Development tool and platforms:** Git, GitHub, Flask, LLMs, Docker, Docker Compose, Thunder Client, ngrok, HuggingFace Spaces, GitHub Pages, RAG, Agentic-AI, n8n(self-hosted)
- Core skills:** Data Structures and Algorithms, Robot Kinematics and Dynamics, Object-Oriented Programming