



# Vedant Agarwal

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## EDUCATION

**Manipal Institute of Technology, Manipal**  
*B.Tech. (Computer Science and Financial Technology)*  
**Headstarter.ai, Remote**  
*Software Engineering Fellowship*

CGPA: 8.3  
(June 2023 - Present)  
  
(2024)

## WORK EXPERIENCE

- Founder - CEO | Vora** (December 2024 - Present)
- Established an AI-native fund management platform, enabling centralized budgeting for AI tools, managing virtual fund allocations.
  - Leading product development and strategy, optimizing fund distribution efficiency by **70%** for AI-driven enterprises.
  - Implemented services which can aid AI-Driven enterprises to cut down their costs upto **40%**
- Python Backend Intern | GoPerch** (January 2024 - July 2024)
- Engineered responsive and interactive websites for diverse clients using Python Flask, ensuring tailored solutions that enhanced user experience and satisfaction ratings by **30%** within the first month of deployment.
  - Increased ad performance by **25%** by integrating machine learning model APIs that provided real-time optimization recommendations for content strategies.

## ACADEMIC PROJECTS

- AI Financial Market Agent | Generative AI(APIs), Data Preprocessing, LangGraph Agent**
- Constructed a finance system powered by **Llama 3.1** and **LangChain Core** to provide real-time insights on metrics like EBITDA, debt-to-equity ratios, and revenue.
  - Achieved 95% accuracy** in delivering actionable insights using tools like **yfinance**, **Graphviz**, and **state graphs** for seamless data integration and decision-making
- GPT-2 LLM from Scratch | NLP, Transformers, Vector Databases, PyTorch**
- Designed and programmed a GPT-2 mini model (~10M parameters) with transformer blocks, attention mechanisms, and tokenized text generation, achieving coherent outputs on a dataset of ~10M tokens.
- Bank Due Diligence Automator | LLMs, Machine Learning, Langchain, Web Scraping, FinTech, API Development, Vector Stores**
- Created an AI-powered automation tool that analyzes project reports, reducing manual review time by **70%**. Collaborated and improved risk assessment accuracy by **20%** for banking due diligence and compliance matching.
- Harbor Fire Detection and Alert System | Deep Learning, Multi-Modal Models, Network Protocols, React Native, App Development**
- Devised a real-time fire detection system using **MobileNetSSD** and **YOLOv8**, achieving **93.5%** accuracy in detecting fire and smoke incidents from surveillance feeds and sensors.
  - Built a **Python Kivy mobile app** with instant alerts via network protocols, sim module **SIM800L**, reducing emergency response time by **40%**.

## TECHNICAL SKILLS

- Languages:** Python, Java, C, C++, Solidity, SQL, HTML, CSS, TypeScript
- Core:** Data Structures and Algorithms, System Design, Blockchain Development, Object-Oriented Programming, Machine Learning, Deep learning, Database Management, Cloud Computing, Operating Systems, Computer Networks, Probability & Statistics, Generative AI, Computer Vision and Robotics
- Frameworks:** PyTorch, Springboot, TensorFlow, Flask, Kivy, Scikit-Learn, Keras, OpenCV, OpenAI, Hugging Face, Flask, Tkinter, FastAPI, MySQL
- Libraries:** LangChain, LangGraph, CrewAI, NumPy, Pandas, Matplotlib, Seaborn, Git, FAISS, PySpark, GraphQL
- FinTech:** Embedded Finance, Investment Banking, Backend and API Development, Quantitative Analysis, Accounting, Capital Markets, Cybersecurity

## PUBLICATIONS

- Bridging Image and Clinical Data: A Comparative Analysis of Fusion Techniques for Skin Lesion Diagnosis** (Pre-Print)
- Log-Periodicity Patterns in Cryptocurrency Microbubbles: A Comparative Analysis** (Under Review)
- An Integrated Computer Vision Framework for Forest Fire Detection, Mitigation, and Geopositioning** (Under Review)
- Blockchain-Enabled Auditing for Robotics and AI Command Integrity** (Presented at Conference)
- Advances in Natural Language-Based Human-Robot Interaction: Integrating LLMs, Multi-Modal Data, and User-Centric Design** (Pre-Print)
- 6 Utility Patents and 1 Design Patent Filed**

## POSITIONS OF RESPONSIBILITY

- President | Finova, The Official FinTech Club** (November 2024 - Present)
- Led a **400+ member** fintech & AI community, organizing **15+ events** across **8 domains**, including DeFi, AI engineering, Cybersecurity, Quantitative analysis and Fullstack development.
  - Hosted **5+ industry collaborations** and launched **4 fintech projects** with real-world applications, derived our **own cryptocurrency (Finova Coin)** on **Solana chain** and applied it organization and institution wide, and initiated and aided **11+ research papers** among the members.
- AI Researcher | RoboManipal** (August 2023 - Present)
- Represented Robomanipal at **RoboCup Brazil 2025**, a prestigious international robotics competition featuring **8 teams from 120+ countries**; contributed to developing AI Object detection algorithms that boosted system efficiency by **25%**.
  - Competed at the **World Robotics Championship 2024 (Greater Noida)**, where our innovative sensor fusion and decision-making strategies distinguished our team among **60+ International competitors**.
  - Advanced our competitive edge at the **DD Robocon National Qualifiers in Delhi**, securing a top-20 ranking out of more than **200 teams** by refining real-time image processing and object classification.
  - Authored **3 research papers** and **1 review paper** in renowned journals and international conferences, and filed **7 patents (waiting to publish)** on novel FinTech systems or AI-driven robotics methodologies and products, marking significant contributions to the field.

## Certifications and Specializations

- Advanced Data Analytics Professional Certification | Google**
- Generative AI Specialization | DeepLearning.ai**
- Machine Learning for Trading Specialization | NYIF**
- Java FullStack Developer Specialization | Board Infinity**

- **ISAC Certified Forensic Investigator** | *National Security Database*

- **Java FullStack Developer Specialization** | *Board Infinity*