Omkar Arvind Kottawar

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Education

VIT Bhopal University **Bhopal, India**

B.Tech | Computer Science and Engineering (CSE) Sept 2023 – May 2027

- Ongoing education with current GPA of **9.04**.

Datta Meghe World Academy **Navi Mumbai, India**

Higher Secondary Certificate (HSC) June 2022 – April 2023

- Completed the entire coursework with an aggregate of **81.04%**.

Datta Meghe World Academy **Navi Mumbai, India**

Secondary School Certificate (SSC) June 2020 – April 2021

- Completed the entire coursework with an aggregate of **95.00%**.

Skills

Languages: Python, C++, JAVA, HTML, CSS

Libraries: NumPy, Pandas, Matplotlib, Streamlit, Huggingface smolagents, PyTorch, Scikit-Learn

Developer Tools: VS Code, Github

Professional Experience

Cisco Community – Design Co-Lead VIT Bhopal University | May 2024 – Present

- Promoted to Design Co-Lead, leading the end-to-end design strategy for community branding, event visuals, and digital outreach.
- Directed the visual identity for 8+ major events, including workshops, hackathons, and collaborative sessions with industry mentors.
- Mentored junior design contributors, ensuring design consistency and skill development across the team.
- Spearheaded creative campaigns that improved event visibility and student engagement across campus
- Played an integral role in scaling the community's impact and visibility within the campus and online.

Cisco Community – Community Member VIT Bhopal University | October 2023 – May 2024

- Joined as an early contributor to the Cisco Community, actively assisting in organizing technical sessions and design-related tasks.
- Supported branding and outreach efforts by designing posters, event collateral, and social media creatives.
- Collaborated with senior leads to execute 5+ community events focused on emerging technologies and career development.
- Contributed to the growth of the community's design presence, helping establish a cohesive visual identity across all student-facing platforms.

Projects & Open-Source Contributions

Finsight – AI-Powered Bank Statement Analyzer

Tech Stack: Python, Streamlit, Pandas, Matplotlib

- Designed and developed an AI/ML tool that processes CSV bank statements to deliver **actionable financial insights** through intuitive visualizations.
- Engineered features that parse and auto-categorize transaction data, enabling detailed **overall spending vs. income analysis**, recurring transaction identification, and **anomaly detection** for fraud prevention.
- Integrated a **natural language query interface** that allows users to ask financial questions and receive AI-powered responses, enhancing interactive data exploration.

Agentic AI Prototype – Exploring Basic Agent Frameworks

Tech Stack: Python, Huggingface smolagents

- Developed a basic prototype using Huggingface smolagents to explore **agent-based decision making** and interaction models.
- Experimented with **foundational agent behaviours**, setting up simple scenarios to validate the feasibility of autonomous, agent-driven actions.
- Gained hands-on experience with integrating and **fine-tuning smolagents** for small-scale AI experimentation.

Publications and Research Projects

Book Chapter – Novel Multiobjective Rough-Fuzzy Neural Network (MO-RFNN)

Manuscript Completed | Supervised by Dr. Nancy Kumari, VIT Bhopal University, 2025

- Authored a research chapter on **MO-RFNN**, a hybrid deep learning model combining **fuzzy logic**, **rough set theory**, and **multiobjective optimization** for **uncertainty-aware decision-making**.
- Developed a modular PyTorch-based pipeline incorporating Gaussian fuzzification, fuzzy–rough approximations, feature-level attention, and residual-connected neural core.
- Integrated **NSGA-II evolutionary algorithm** (via DEAP) to optimize architectures for accuracy, rule simplicity, and computational cost.
- Evaluated on a merged version of the full **UCI Heart Disease dataset** (Cleveland, Hungarian, Switzerland, VA), enabling robust cross-regional validation using stratified 5-fold CV **(AUC > 82%)**.
- Designed a dual-layer interpretability framework: **decision-tree-based symbolic rule extraction** and **attention-based feature relevance analysis.**