

Omkar Kottawar

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EDUCATION

VIT Bhopal University - 9.10 CGPA

B.Tech. in Computer Science and Engineering

Sehore, MP

Sep 2023 – May 2027

Datta Meghe World Academy - 8.10 GPA

Higher Secondary Certificate

Mumbai, MH

June 2022 – Apr 2023

Datta Meghe World Academy - 9.50 GPA

Secondary School Certificate

Mumbai, MH

June 2021 – Apr 2022

TECHNICAL SKILLS

Programming Languages: Python, JAVA

Deep Learning Frameworks: PyTorch

Libraries & Tools: NumPy, Pandas, Scikit-learn, Matplotlib

Design Tools: Adobe XD, Figma, Penpot

PROJECTS

TorchML - Fundamental ML Algorithms from Scratch

Machine Learning Educational Framework

Aug 2025 – Present (WIP)

Python, PyTorch, NumPy, Matplotlib, Scikit-learn

- Developing a comprehensive library of core machine learning algorithms implemented from scratch in PyTorch to demonstrate deep understanding of mathematical foundations and optimization techniques.
- Completed linear models section featuring Linear, Ridge, Lasso, Polynomial, and Logistic Regression with full mathematical derivations, custom gradient descent implementations, and extensive documentation.
- Built modular architecture with standardized base classes, comprehensive unit tests, algorithm comparison frameworks, and interactive visualization tools for educational demonstrations.
- Designed for extensibility with planned neural networks, tree-based methods, and clustering algorithms sections to create a complete ML educational resource.

ReviewSense - A Fuzzy Logic Satisfaction Analyzer

Data Science Project

July 2025 – Aug 2025

Python, Fuzzy Logic, Pandas, Matplotlib, Scikit-fuzzy

- Built an AI system using fuzzy logic to analyze customer satisfaction from e-commerce reviews, providing transparent rule-based classification with numerical scores (0-10) and categorical levels (Low/Medium/High).
- Created feature extraction pipeline combining sentiment analysis and review length metrics, with customizable fuzzy membership functions that adapt to different business requirements and customer feedback patterns.
- Developed end-to-end workflow that processes raw review datasets, applies linguistic analysis and fuzzy inference, then exports enriched results to CSV for business intelligence and analytics dashboards.

Agentic AI Prototype – Exploring Basic Agent Frameworks

Agentic AI Experimentation

Aug 2023 – Dec 2023

Python, Huggingface smolagents

- Developed a basic prototype using Huggingface smolagents to explore agent-based decision making and interaction models.
- Experimented with foundational agent behaviors, 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.

Finsight – AI-Powered Bank Statement Analyzer

Machine Learning Project

Jan 2023 – Present

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.

PUBLICATIONS

Book Chapter – Novel Multiobjective Rough-Fuzzy Neural Network (MO-RFNN) <i>VIT Bhopal University</i>	Oct 2024 - Present <i>Sehore, MP</i>
<ul style="list-style-type: none">• 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 and with $AUC > 0.82$• Designed a dual-layer interpretability framework: decision-tree-based symbolic rule extraction and attention-based feature relevance analysis.	

EXPERIENCE

General Secretary <i>Cisco Community VITB</i>	Present <i>Sehore, MP</i>
<ul style="list-style-type: none">• Promoted to General Secretary, overseeing strategic operations, team coordination, and community growth initiatives across all organizational functions.• Drive strategic planning for community expansion, stakeholder relationships, and campus-wide engagement programs that enhance student participation and professional development.	
Design Team Co-Lead <i>Cisco Community VITB</i>	May 2024 - July 2025 <i>Sehore, MP</i>
<ul style="list-style-type: none">• 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.	