

Omkar Kottawar

+91 9967144011 | okottawar@gmail.com | linkedin.com/in/omkar-kottawar | github.com/okottawar

EDUCATION

VIT Bhopal University - 9.10 CGPA

B.Tech. in Computer Science and Engineering

Sehore, MP
Sep 2023 – Expected 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, Streamlit

Cloud Platforms: AWS (Foundational), Oracle Cloud Infrastructure (OCI)

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.
- Building the library to be easily packaged and deployed as a core component of larger cloud-based machine learning applications.

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.

Finsight – AI-Powered Bank Statement Analyzer

Machine Learning Project

Jan 2023 – Present

Python, Streamlit, Pandas, Matplotlib

- Developed a full-stack financial analysis tool using a Python/Pandas back-end and an interactive Streamlit front-end to process and visualize bank statements.
- 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)

Manuscript Completed

Sehore, MP

- 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.

CERTIFICATIONS

Oracle Cloud Infrastructure (OCI) Certified AI Foundations Associate, Oracle University (2025 - 2027)

Introduction to Machine Learning, NPTEL (2025)

Elements of AI, University of Helsinki (2021)

ADVANCED TRAINING

AWS Cloud Practitioner Essentials Course

GeeksforGeeks

Aug 2025

Online

- Completed a comprehensive course covering core AWS services, cloud architecture, security, compliance, and billing models in preparation for the official certification exam.

Introduction to Quantum Computing

Qubit X Qubit

Oct 2020 - May 2021

Online

- Developed a foundational understanding of quantum computing, with topics including introductory linear algebra, coding with Qiskit, quantum mechanics, quantum algorithms, and quantum applications.

EXPERIENCE

General Secretary

Cisco Community VITB

Present

Sehore, MP

- 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

Cisco Community VITB

May 2024 - July 2025

Sehore, MP

- 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.