RAJ MAURYA

Software Engineer | Aspiring Researcher

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EXPERIENCE

Software Development Intern, *Pinch* May'26–Jul'26
- Built and tested application features within an agile engineering team

Teaching Assistant, *Himshikhar-IIT Mandi* May'26–Jul'26
- Mentored students and supported undergraduate course delivery

Research Intern, *IIT Mandi* Dec'24–Jan'25
- Studied NP-complexity classes and formal problem reductions

EDUCATION

B.Tech, Mathematics and Computing 2023–27
Indian Institute of Technology, Mandi

- **CGPA:** 8.73/10
- **Coursework:** DSA, Deep Learning, ML, Linear Algebra, PDEs/ODEs, Probability & Statistics, Optimization, Mathematical Modeling, Computer Networks, Intro to Quant Finance

PROJECTS

GenWeb Git Web
- AI-driven website generator using agents to auto generate and deploy websites
- Prompt-based generation with automated project setup and deployment

CTAEA Optimization Git
- Implemented the original paper of the CTAEA from scratch
- Used it on the solutions of CMOPs

ByteChat.in Git Web
- Full-stack encrypted chat application enabling anonymous, real-time communication
- Designed real-time communication and secure message-handling components

Ethical Keylogger Git
- Developed an ethical keylogger for activity monitoring and parental-control
- Integrated sentiment analysis for detecting harmful content

Check-It Git Web
- Browser-based real-time object detection web by TensorFlow.js and the COCO-SSD
- Detects 80+ common objects directly in your browser using your webcam

Deepfake Detection Git
- Developed a deepfake video detection model from scratch
- Unsupervised deepfake video detection via enhanced Contrastive learning

CURRENT WORK

Nanofluids flow recreation via PINNs:- Submitted the Research Paper (Journal of Computational Physics)

Neuro Trade via PINNs:- Indian market modeling using differential equations

EXOCORTEX:- Structured web platform for personal learning

POSITIONS OF RESPONSIBILITY

Member, Research Society Since 2024
IIT Mandi

SUMMARY

Curious student in M&C with a deep love for mathematical problem-solving and exploration at the intersection of theory and application along with strong interest in software development. Strong foundations in DL, Quantum Computing and Fluid Dynamics, complemented by research experience in various fields.

TECHNICAL SKILLS

Programming
Python C++ JS Bash

ML-DL
PyTorch TensorFlow Keras Scikit-learn OpenCV

Mathematical Modeling
PINNs ODEs SDEs Optimization PDEs Stochastic Modeling

Scientific/Quant
NumPy MATLAB Quant Finance Scientific Computing Qiskit COMSOL Multiphysics

Development
Node.js Native GraphQL Flask Git Linux

CERTIFICATIONS

Machine Learning
Coursera – Andrew Ng

Quantum Computing
Coursera

Dynamic Programming
Coursera

KEY ACHIEVEMENTS

- **AMEX CodeStreet 2026 Finalist**
  Top 6 team, cross-channel journey stitching platform
- **C-TAEA Research Implementation**
  Full IEEE TEVC paper replication, GECCO-track candidate
- **DeepFake Video Classifier**
  CNN model for real vs. manipulated video detection
- **Portable Oxygen Concentrator**
  IoT-enabled prototype for low-resource settings