

ARSH MAHESHWARI

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EDUCATION

JIET Institute of Design and Technology || Jodhpur, Rajasthan September 2023 – May 2027
B. Tech Computer Science, Specialization: Artificial Intelligence and Machine Learning

JESC (JIET Entrepreneurship and Development Cell) || JIET Institute of Design and Technology
Core Team member

Relevant Coursework: Data Structures and Algorithms, Operating Systems, Artificial Intelligence, Machine Learning, System Design, Software Engineering, Object-Oriented Programming
CGPA: 8.39

SKILLS

- Technical skills:** Python, C++, JavaScript/TypeScript, Solidity, React, Next.js, React Native (Expo), Tailwind CSS, Bootstrap, FastAPI, Flask
- Tools:** PostgreSQL, MongoDB, Firebase, Oracle, Docker, Kubernetes, Git/GitHub, Netlify, Yarn, Vercel, Hardhat, Lens, OpenZeppelin
- AI-ML:** Hugging Face, LangChain, LlamaIndex, spaCy, CNN, PyTorch/TensorFlow, NLP pipelines
- Soft skills:** Problem Solving, Research & Innovation, Cross – Disciplinary Collaboration, Agile Development

WORK EXPERIENCE

Maxgen Technologies Pvt. Ltd: *Machine Learning Intern* 06/2025 – 08/2025

- Gained hands-on experience with key machine learning algorithms, including Naive Bayes, k-NN, CNN, SVM, Decision Trees, Random Forest, HMM, and various regression models. Developed expertise in bagging and boosting techniques.
- Mastered essential data science libraries such as NumPy, Pandas, Matplotlib, Plotly, and Seaborn for data manipulation, analysis, and visualization.
- Successfully developed and implemented a deep learning project focused on SAR image colorization using a Convolutional Neural Network (CNN), demonstrating practical application of advanced concepts.

PROJECTS

QuerySure

- Developed an AI-powered Health Insurance Query Processor using FastAPI, integrating semantic search and natural language understanding to automate claim pre-assessment and customer support.
- Engineered a backend system that parses insurance policy PDFs with PyMuPDF, extracts key information from natural language queries using spaCy and regex, and generates automated decisions (approved/rejected) with detailed, clause-level justifications.
- Leveraged deep learning models, specifically a fine-tuned `llmware/industry-bert-insurance-v0.1` transformer, to perform semantic similarity matching and sequence classification for automated coverage analysis.
- Implemented a full-stack solution with a Python backend (FastAPI) and a frontend (HTML/CSS/JS), demonstrating expertise in document intelligence, automated decision-making, and explainable AI for the insurance domain.

CredoPay (Web3 payment platform)

- Engineered CredoPay, a full-stack Web3 payment platform for decentralized micropayments and escrow on Ethereum, serving as a crypto-native alternative to traditional systems. The project is structured as a monorepo using Yarn workspaces with separate packages for smart contracts (Hardhat) and the frontend/backend (Next.js), ensuring a modular and scalable architecture built on Scaffold-ETH 2.
- Developed and deployed Solidity smart contracts on the Sepolia testnet, including a programmable escrow system for conditional, milestone-based payments and a decentralized marketplace utilizing the x402 protocol. Integrated with OpenZeppelin for enhanced security and leveraged Hardhat for automated testing and deployment.
- Built a robust frontend using Next.js, Tailwind CSS, and TypeScript, integrating multiple wallet SDKs (Coinbase Wallet, RainbowKit) and libraries like Wagmi and Viem for seamless on-chain interactions. Implemented a mobile-friendly payment system with QR code generation and used Zustand and React Query for efficient state and data management.
- Implemented unique features such as Account Abstraction for flexible transaction flows, ENS (Ethereum Name Service) integration for improved user experience, and a Universal Wallet ID Registry to manage cross-platform identities. The platform's modular design supports future multi-chain expansion and incorporates event tracking for transparent on-chain auditing.

MagnifyDX

- **SAR Image Colorization:** Developed a convolutional neural network (CNN) model to colorize SAR (Synthetic Aperture Radar) images using Sentinel-1 and Sentinel-2 satellite data. This enhanced geomapping, environmental studies, and long-term landform change analysis. The model was trained on a dataset of NDVI, SAR, and RGB images in .tif format.
- **Medical Scan Upscaling & Identification:** Utilized object identification libraries and a custom dataset of over 1000 medical scans (MRI, X-ray, CT) to identify specific body parts. Implemented image enhancement and upscaling techniques to transform low-quality scans into high-definition images, making high-tier scans (e.g., 3T MRI) more accessible and economical.
- **Advanced Image Processing:** The medical scan block included specialized features for upscaling 1.5T to 3T MRI scans and enhancing thermal and infrared imagery. This significantly improved the clarity and diagnostic utility of the scans.

ACHIEVEMENTS

- Winners of Hack-Arya-Verse, Arya College of Engineering & IT, Jaipur
- 2nd Runners-up in Innovate-A-Thon, BIT Mesra, Ranchi
- Top – 10 at Hackground India 2K25, TechVerse NEXUS
- Top – 5 at Reckon 6.0, JIET, Jodhpur
- Shortlisted for Smart India Hackathon – 2024