Joy Banerjee

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EDUCATION

Agnel Charities' Fr. C. Rodrigues Institute of Technology, Vashi — Navi Mumbai, India
Bachelor of Engineering in Computer Engineering, Sem V CGPA: 8.02/10 — *Sept 2023 – June 2027*

EXPERIENCE

Research Intern — June 2025 – Present
Indian Institute of Science Education and Research (IISER) Mohali — *Mohali, India*
- Participating in cutting-edge **AI research project** focusing on **machine learning** and computational methods
- Automated **infrastructure deployment** for data center using **Proxmox, Docker, Jenkins CI/CD**
- Integrated **SonarQube** for machine-readable network definitions across **4 physical servers**

Technical Team Member — Nov 2024 – Aug 2025
E-CELL FCRIT, Entrepreneurship Cell — *Navi Mumbai, India*
- Executed major technical event hosting over **200 participants**
- Developed **technical infrastructure** supporting multiple entrepreneurship initiatives
- Collaborated with **cross-functional teams** to deliver seamless event experiences

PROJECTS

AI Recommendation Engine for PM Internship Scheme | *Python, Docker, K8s, AWS, ML* — Dec 2025
- Secured **Runners-Up** at **Smart India Hackathon 2025** against **500+ teams** under **Ministry of Corporate Affairs**
- Designed **ML-Light recommendation** system using **Sentence Transformer, FAISS, k-NN with Cosine Similarity**
- Deployed **containerized microservices** on **AWS** using Docker and Kubernetes for **high availability**

College Data Center Setup | *Proxmox, Docker, Jenkins, Terraform, Ansible* — July 2025 - Present
- Automated **infrastructure deployment** across **4 servers** using **Infrastructure as Code**
- Configured **CI/CD pipelines** and **SonarQube** for **continuous quality monitoring**
- Established **RBAC compliance** and **security standards** for production environment

Bloodbank ML-Powered Donor System | *Python, BERT, Firebase, PostgreSQL, React* — Nov 2025
- Developed **donor matching system** using **BERT** for **ML-based demand forecasting**
- Implemented **Firebase** for **real-time geo-location tracking** and scalable backend
- Optimized **database queries** for **large-scale donor-recipient matching**

TECHNICAL SKILLS

Languages: Python, Java, Javascript, Typescript, SQL, C++, Shell Scripting, Bash
Frameworks: React, Node.js, Next.js, React Native, FastAPI, Flask, Express
Databases: MySQL, PostgreSQL, MongoDB, Firebase, Supabase
Cloud & DevOps: Kubernetes, Docker, Terraform, Ansible, Jenkins, Git, GitHub, Gitea, OCI, AWS, CI/CD
Tools: Proxmox, Nginx, Apache Kafka, Langchain, SonarQube, Nexus, Burp Suite, Wireshark, Jira
Other: DSA, REST APIs, WebSockets, ML, NLP, LLMs, Scalable Systems, BERT, TF-IDF, k-NN, XAI

CERTIFICATIONS AND ACHIEVEMENTS

- **Runner-Up at Smart India Hackathon 2025** competing against **500+ teams** under Ministry of Corporate Affairs (Dec 2025)
- **Oracle Cloud Infrastructure 2025 Certified DevOps Professional** (Sept 2025)
- **Oracle Cloud Infrastructure 2025 Certified Foundations Associate** (Sept 2025)
- **Leadership**: Supported execution of major technical event for Ecell; Led team for Smart India Hackathon 2025