

Soujash Banerjee

Roll No.: 12022002019048 — B.Tech Computer Science and Engineering 2026
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EDUCATION

B.Tech, Institute of Engineering and Management (IEM), Kolkata	CGPA: 9.13	05/2022 - Present
Senior Secondary, Delhi Public School, Ruby Park, CBSE Board	92.6%	05/2022
Secondary, M.C.Kejriwal Vidyapeeth, Liluah, Howrah, ICSE Board	89.1%	05/2020

PROFESSIONAL EXPERIENCE

IEMA Labs <i>Research Intern</i>	01/2024 - Present On-Site
<ul style="list-style-type: none">Engineered Asset Health Management (AHM) system processing 50,000+ data points daily, boosting fault detection accuracy to 97%. Optimized ML algorithms resulting in 40% extended asset lifespan and 25% reduced downtime across 200+ industrial units	
Indian Institute of Technology, Kharagpur <i>Machine Learning Research Intern</i>	05/2024 - 06/2024 On-Site
<ul style="list-style-type: none">Architected Project TACTIC's tri-phased multimodal model, analyzing 100,000+ threat instances with 92% accuracy. Streamlined processing pipeline reducing false positives by 30% and analysis time by 40% across 15 security frameworks	
Console Management Consultancy <i>Research Head Intern</i>	02/2024 - 04/2024 On-Site
<ul style="list-style-type: none">Designed and launched Bladeless Fire Extinguisher Drone prototype, cutting fire control time by 40% in 25+ field tests. Orchestrated 7-member team to deliver 50,000project15%underbudget	

PROJECTS

Asset Health Monitor: Enterprise-scale predictive maintenance system processing 10TB+ data monthly
<ul style="list-style-type: none">Constructed Flask API handling 1000+ concurrent requests with 0.2s response time, achieving 97.6% prediction accuracy across 50+ asset types. Implemented real-time monitoring reducing maintenance costs by 100,000annually
NexusSM: High-performance social media platform serving 100,000+ monthly active users
<ul style="list-style-type: none">Architected MERN stack infrastructure supporting 10,000+ simultaneous connections with 99.9% uptime. Integrated responsive design boosting mobile engagement by 40% across 5 platforms
Simple Hybrid Regression: Machine learning algorithm optimization for financial forecasting
<ul style="list-style-type: none">Innovated hybrid regression algorithm processing 1M+ data points, surpassing traditional methods by 18.14% in accuracy. Deployed solution across 3 financial institutions
TACTIC: Enterprise security threat detection platform
<ul style="list-style-type: none">Implemented multi-modal threat detection system analyzing 50,000+ audio samples daily, achieving 92% accuracy across 20+ threat categories. Scaled system to handle 100+ concurrent security feeds

SKILLS

- **Machine Learning:** Deep Learning, Neural Networks (CNN, RNN, LSTM), Computer Vision, Natural Language Processing, Transfer Learning, Model Optimization, Hyperparameter Tuning
- **AI Development:**
 - **Frameworks:** TensorFlow, PyTorch, Keras, Scikit-learn, OpenCV, Hugging Face
 - **AI Tools:** LangChain, ChatGPT API, DALL-E, Stable Diffusion, Vertex AI, Azure ML Studio
 - **Research Tools:** Jupyter, Pandas, NumPy, SciPy, Matplotlib, Seaborn
- **Programming Languages:**
 - **Advanced:** Python (NumPy, Pandas, Scikit-learn), SQL
 - **Proficient:** Java, C++, R, MATLAB
 - **Familiar:** JavaScript, HTML/CSS, LaTeX
- **Development Tools & Platforms:**
 - **Cloud:** AWS (SageMaker, EC2), Google Cloud Platform, Azure ML
 - **Version Control:** Git, GitHub, GitLab
 - **Containers:** Docker, Kubernetes
- **Research Skills:**
 - **Analysis:** Statistical Analysis, Data Visualization, Experimental Design
 - **Documentation:** Technical Writing, Research Papers, Documentation
 - **Methodologies:** A/B Testing, Cross-Validation, Performance Metrics
- **Web Development:** MERN Stack (MongoDB, Express.js, React, Node.js), RESTful APIs, GraphQL
- **Soft Skills:** Research Methodology, Problem-Solving, Team Leadership, Technical Presentations, Cross-functional Collaboration

LEADERSHIP & ACHIEVEMENTS

- Spearheaded IEMMUN 2024 operations managing the host website with 25,000+ user interactions, driving 50% participation growth and 75% increase in SEO rankings through optimization techniques
- Established AI/ML research program leading 20+ students across 5 universities, resulting in 3 industry-partnered projects and 2 published research papers
- Secured Second Place among 200+ teams in Institute Hackathon (2023), developing IoT-based energy optimization solution achieving 30% reduction in power consumption across 50+ connected devices
- Captured First Place in AR Hackathon (2023), creating interactive museum experience platform with 100,000+ monthly interactions and 45% increase in visitor engagement across 15 exhibits
- Achieved Top 15 Finalist position in Innovation Project Hackathon (2023) out of 500+ national entries, presenting a sustainable urban planning model that projected a 20% reduction in carbon emissions