Mohit Kr. Shaw

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EDUCATION

Indian Institute Of Information Technology, Kalyani **July 2026**
B.Tech *- Electronics And Communication Engineering* *Kalyani, West Bengal*

PROJECTS

VOICE BASED FRAUD DETECTION SYSTEM | Python, PyAnnote, Resemblyzer **July 2025**

- Engineered an **end-to-end voice recognition pipeline** using **PyAnnote** for speaker diarization and **Resemblyzer** for voiceprint matching, achieving **92.5%+ accuracy** in identifying scammer voices from real conversation audio.
- **Centralized metadata storage** and voice recording access for the team, improving **fraud detection sensitivity by 20%** and reducing false positives, leading to more trusting interactions with customers.
- Processed **100+ real-world scam call recordings** with support for **asynchronous voice analysis**, achieving inference times of under **0.5 seconds per segment**.

STOCK MARKET PREDICTOR | Python, scikit-learn, NumPy, Matplotlib **March 2025**

- Developed a stock trend predictor tool using **Enhanced GMM + EM**, improving accuracy by **18%** over baseline models with **78.6% overall precision**.
- Visualized **volatility zones** in **S&P 500 data** to detect buy/sell signals, boosting simulated return rates by **11.4%**.
- Benchmarked against Linear and SVR models improvised and achieved **23.5% lower MSE** and **faster convergence** using hyperparameter-tuned GMM.

SAMAYA - AI Chatbot for Grievance Redressal | React JS, NLP, Transformers **January 2025**

- Introduced accessibility of the AI chatbot to government services by integrating **Google Translate API**, supporting **20+ Indian regional languages**, and enabling **85%+** of the user base to access assistance.
- Achieved **82% classification accuracy** in mapping grievances to departments using custom **NLP models** tested and issued **unique token IDs** for real-time complaint tracking.

RESEARCH WORK

- **Cooperative Spectrum Sharing with an Untrusted Receiver (B.Tech. Thesis)** **May 2025**
  Under the supervision of Dr. Pratik Chakraborty, IIIT Kalyani
  - **Allocated Optimized power allocation** in **Secure Cognitive Radio Networks** using **Joint Secrecy and Reliability (JSR) metrics**, deriving **closed-form solutions** under interference constraints, achieving a **15% gain in secrecy throughput** and a **22% reduction in interference**.
  - Developed a **JSR-driven optimization model** with **power splitting**, resulting in a **10% improvement in secrecy outage probability** and overall improvement of **system security**.

ACHIEVEMENTS

- **Smart India Hackathon 2023 Finalist**: Ranked among the **top 2%** in India's largest hackathon with over **44,000+** participating teams; **led a 6-member team** in developing an innovative solution to a real-world problem.
- **Winner– MLH StatusCode0 Hackathon**: Secured 1st place out of 2000+ participating teams in Wildlife AI track.
- **Cyber Hackathon Bihar Finalist**: Managed and Secured in top 4 from 3,000+ teams nationwide.
- LeetCode Contest Max Rating **1426**.
- Solved over **600+** Data Structure and Algorithms Problems on **LeetCode**.
- Solved over **800+** Data Structure and Algorithms Problems across all other coding platforms.

TECHNICAL SKILLS & INTERESTS

Languages: Python, C, C++, JavaScript.
Developer Tools: VS Code, Android Studio, Git, Bootstrap, Canva, Figma, Postman, Auth0.
Technologies/Frameworks: Linux, GitHub, ReactJS, NextJS, NodeJS, MongoDb, SQL, Typescript, Machine learning, NLP, Transformers.
Hobbies: Playing Chess, Guitar, Painting and Geo-politics.