Sayantan Mandal

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Summary

Computer Science student skilled in software development, data analysis, and cloud computing. Focused on building scalable solutions and leveraging technology to deliver results. Proven ability to integrate hardware and software components to solve real-world challenges.

Education

Vellore Institute of Technology (VIT) — Andhra Pradesh, India
B.Tech in Computer Science and Engineering, CGPA: 8.95/10 — *Aug 2022 – Present*

Delhi Public School Ruby Park — Kolkata, India
CBSE, Percentage: 75% — *May 2022*

Delhi Public School Megacity — Kolkata, India
ICSE, Percentage: 95% — *Mar 2020*

Technical Skills

Languages: Java, Python, C++, C, JavaScript, TypeScript, R, PHP, SQL, LaTeX

Web Development: HTML/CSS, Node.js, React.js, Bootstrap, REST APIs

Tools & Technologies: Git, Power BI, Unix Shell, Docker, AWS, Azure, Google Cloud, Jenkins

Databases: MySQL, MongoDB, PostgreSQL, Firebase

Frameworks & Libraries: Flask, Django, Express.js, Pandas, NumPy, Matplotlib

Other: Data Structures, Algorithms, Machine Learning, Data Analytics, AI, Ethical Hacking, System Design, NLP

Selected Projects

LoRa-Based Wireless Monitoring System for Environmental Irregularities Detection *Jan 2024*
LoRa, IoT, Embedded Systems
- Established a LoRa network for sensors over 10 km^2, achieving 99.99% transmission reliability.
- Reduced sensor downtime by 20% by implementing scheduled maintenance alerts.
- Enhanced energy efficiency of nodes by 15% via optimized duty-cycling.

Development of a Low-Cost Solar Irradiance Measurement Device *Jun 2024*
Embedded Systems, IoT, Renewable Energy
- Designed an affordable device, reducing costs by 70% compared to commercial alternatives.
- Integrated sensors and microcontrollers, achieving measurement accuracy within ±5% of standard instruments.
- Validated performance against industry benchmarks under diverse weather conditions.

Logistics Classification Using Data Mining *Sep 2023*
Python, Machine Learning, Data Mining
- Developed models to predict optimal shipping mode, improving routing efficiency by 25%.
- Utilized data mining for feature selection, increasing prediction accuracy to 85%.
- Streamlined logistics, reducing transit delays by 15% and saving $50K annually.

Automated Defective Exhibit Identification System *Mar 2023*
Python, Machine Learning, Deep Learning
- Achieved 92% accuracy in defect detection, reducing inspection time by 50%.
- Implemented anomaly detection techniques, reducing false positives by 30% and cutting manual inspection workload by 40%.
- Optimized processing pipeline, reducing data processing time by 35%.

Hobbies

Hobbies: Reading tech blogs & books; playing strategy and puzzle games.