Gourab Modak

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Portfolio Website | LinkedIn | Github | Codechef | Leetcode

Professional Summary

Computer Science student with a strong background in software engineering and machine learning. Experienced in developing and optimizing ML models, performing data analysis, and leading technical projects. Proficient in Data Structures and Algorithms (DSA) and committed to teamwork and mentoring.

Education

Indian Institute of Technology Madras, BS in Data Science and its Applications — May 2023 to Present
- CGPA: 9.63/10.0 (Topper) (Profile Page) (Progress Card)

Jalpaiguri Government Engineering College, B.Tech in Computer Science — Sept 2022 to Present
- CGPA: 9.57/10.0 (Latest issued Progress Card)

Competitive Exams: 95.5%ile in JEE Mains and 98%ile WBJEE Rank: 2100

Work Experience

Software Engineering Intern, iHub and HCi Foundation, IIT Mandi, H.P., India — May 2024 to July 2024
- Automated EEG data signal processing from a 64-channel ANT Neuro device using Python scripts, significantly reducing manual workload and improving efficiency; implemented noise reduction algorithms on signal data from 150 patients.
- Developed and tested over 7 machine learning algorithms, including KNN, SVM, and Random Forest, achieving over 80% accuracy in classifying healthy individuals and Parkinson's patients, and predicting disease severity.
- Enhanced machine learning model performance by 20% through optimal hyperparameter tuning using grid search.
- Created an automated EEG wearable device booking system using QR code scanning, streamlining device usage tracking and eliminating manual work.

AI/ML Core Team, Google Developer Student Clubs GDSC - JGEC Jalpaiguri W.B. India — Aug 2023 to Feb 2024
- Promoted to Core Team in Spring 2023, leading and mentoring students in programming; delivered presentations on Data Structures, Algorithms, and AI/ML basics.
- Conducted workshops and coding bootcamps, improving students' problem-solving skills and preparing them for coding contests.
- Provided one-on-one mentorship, supporting students' academic and career development.

Projects

Deep Leaning Project on Plant Disease Prediction — github.com/spexcher/PDP
- Designed and implemented a robust CNN-based image classifier for precise plant disease prediction, leveraging advanced data augmentation techniques to enhance model generalization.
- Engineered data pipelines and created visualizations using NumPy, Pandas, Seaborn, Matplotlib, scikit-learn, TensorFlow, and Keras; increased data processing efficiency by 40% and streamlined model evaluation process

Machine learning Project on Diabetes Prediction — github.com/spexcher/DBP
- Developed an advanced diabetes prediction model using Support Vector Machine; spearheaded the optimization hyperparameters via Grid Search and Bayesian Optimization, achieving 78% prediction accuracy, best in the industry.
- Tools Used: NumPy, Pandas, Seaborn, Matplotlib, scikit learn,scikit-optimize.

ReactJS Portfolio Website — github.com/spexcher/POF
- Developed responsive and interactive single-page application using ReactJS, ensuring seamless user experience across devices.
- Tech Stack: HTML, CSS, JS, ReactJS.

Additional Experience Certifications and Awards

Coding Achievements: Achieved 3 Star Coder status on CodeChef; solved over 1,000 DSA questions across various coding platforms like Codeforces, Leetcode etc.

2nd Prize, 1st Runner Up: IIT Kharagpur Techfest (Kshitij) Voyager competition.

Silver Medalist: Achieved Excellency in Data Structures and Algorithms in Python, Joy of Computing in Python, Discrete Mathematics, and English Language for Competitive Exams.

1st Prize: Awarded for demonstrating exceptional problem-solving skills and advanced knowledge in Data Structures and Algorithms in College Coding Competition.

2nd Prize: Recognized for outstanding writing ability and proficiency in English composition in College English Writing Competition.

Skills/Technologies

Programming Languages: Python, C++, JavaScript, Java
Machine Learning: Scikit-Learn, TensorFlow, Keras, Pandas, NumPy
Web Development: HTML, CSS, JavaScript, React, Node.js, Express, SQL, Django, MongoDB
Tools & Technologies: Git, GitHub, Docker
Software Development: Data Structures and Algorithms (DSA), Object-Oriented Programming (OOP), Software Engineering Principles