Priyanshu Debnath

Roll No.:250102242
B.Tech - Electronics and Electrical Engineering
Minor in Mathematics
Indian Institute Of Technology, Guwahati

+91-8777065350
priyanshuib01@gmail.com
priyanshu.debnath@iitg.ac.in
github.com/PriyanshuIITGHY2006
linkedin.com/in/priyanshu-debnath-3a81711b3
priyanshudebnath.me

Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology, Guwahati	9.52 (Current)	2025-Present
B.Tech. Minor (Mathematics)	Indian Institute of Technology, Guwahati	9.00 (Current)	2026-Present
Senior Secondary	WBCHSE Board	95.0%	2025

Projects

•Calm-Trend Regime: BTC/ETH Trading (Inter IIT Tech Meet Bootcamp) *2026*
Python, NumPy, Pandas, SciPy, Backtesting is.gd/calmtrendCTR

- Built daily trend-following strategies with volatility-regime position sizing; 2021–2025 backtest returned **+368% (BTC) and +482% (ETH)**, **Sharpe ≈ 0.97**, cutting BTC max drawdown from **−77% to −30%**.
- Signal: **7 moving-average votes** (20–200 days) with hysteresis, sized by **volatility percentile**, efficiency ratio and Choppiness. A **HAR** model explains 60% (BTC) and 73% (ETH) of next-day log volatility; ML and RL direction models (AUC 0.40–0.51) were rejected.
- Backtested with **0.15% fees per fill**, next-open execution and financing; Sharpe held at **0.90 with costs doubled**, and in 2022 BTC returned −1.1% versus −64.2% for buy-and-hold.

•Hackathon-Squad: Maximum Weight Independent Set Solver *Apr. 2026*
C++, Parameterized Algorithms, Max-Flow, Local Search is.gd/hackSquadMWIS

- Solved NP-hard MWIS on large graphs within **290 seconds**: **kernelization** (degree-0/1/2 reductions, dominance, V-shape folding), then **LP relaxation** (Nemhauser–Trotter, Dinic max-flow) to fix part of the solution.
- Solved the remaining core with **tree DP** and **Iterated Local Search** using a **PROBE** move (1→k swap).

•LevUp: Systematic Alpha Engine (Indian Equities) *Feb. 2026 – Present*
Python, Pandas, NumPy, SciPy, yfinance is.gd/levupAlpha

- Built a **Market Regime Detection** and Cross-Sectional Quadrant Engine to pivot allocations between momentum and defensive strategies, using market breadth and a $\pm 1\sigma$ hysteresis band to minimize whipsawing.
- Engineered volatility-adjusted ($k \times \mathrm{ATR}_{14}$) exits and optimized the portfolio via a **Multi-Objective Genetic Algorithm** with **Hierarchical Risk Parity**, achieving **24.41% CAGR and 1.08 Information Ratio.**

•onnxcc: ONNX Model Parsing Library *Ongoing*
C++, CMake is.gd/onnxcc

- Developing a C++ library (CMake build, with tests) to parse ONNX models.

Achievements

•Competitive Programming, **Codeforces Expert** | **700+ solved** | PriyanshuIITGHY2006 *2025-Present*
- **Max rating 1650** | **Educational Round 191 (Div. 2)**: rank **601** | **Round 1115 (Div. 2)**: rank **1239**

•IICPC Quantfest 2026, **AIR 51** in Prelims (11000+ participants) | **AIR 266** in Regionals (620+ shortlisted) *2026*

•AMS Derive 2026, PRIOR Round — Official **Rank 199** | Algorithms & Mathematics Society *2026*

•IICPC Delta Tech Track, Online Assessment **Rank 5** among 1300+ registered participants *2026*

•Introductory Options Hackathon, **5th Position** — hackathon organized by FEC *2026*

•Kriti 2026, IIT Guwahati, **Gold Medal** — AI Challenge | **Silver Medal** — Quant Challenge *2026*

•Neurohack Hackathon, **6th Rank** — hackathon organized by IITG.AI *2026*

Technical Skills

- **Programming**: C++, Python, C
- **Libraries & Tools**: Git, PyTorch, NumPy, Pandas, Scikit-learn, FastAPI
- **Key Concepts**: Data Structures & Algorithms (DSA), Game Theory, Deep Learning

Key Courses Taken

- **Mathematics**: Mathematical Statistics, Probability and Random Processes, Single Variable Calculus*, Multi Variable Calculus*, Group Theory, Linear Algebra*, Complex Analysis*, Ordinary Differential Equations*
- **Core Courses**: Digital Electronics, Signal and System
- **CS Courses**: Programming and Data Structures*

* Awarded AA/AS grade 10/10

Extracurricular

•Deputy Coordinator, Coding Club, IIT Guwahati (Competitive Programming Module) *Jan. 2026 - Present*

•Associate, Polygon, Mathematical Society, IIT Guwahati (organized Mathematics Melee) *Dec. 2025 - Present*

•Gold Medal in Mime, Manthan Inter-College Cultural Competition *2026*