HIMANSHU BALASAMANTA

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Education

IIT BHU (Banaras Hindu University), Varanasi   May 2018 – May 2022
B.Tech : Electrical and Electronics Engineering   *CGPA- 8.13*

Awards and Recognition

- AIR 2503 in JEE Advanced 2018 (99.5 percentile), AIR 5851 in JEE Mains.
- **Google Summer of Code 2020**, contributed to Eclipse IDE.
- **NTSE Scholar**, awarded to top 750 students nationally.
- **Expert**, Codeforces, **5-star**, CodeChef ID : Balasamanta
- **Global Rank 3**, Codechef Elevate – Programming + CS Concepts Quiz

Experience

Microsoft Low Latency C++ developer   **Full Time**
Low latency solutions for reducing time taken for windows update on surface devices   *May 2022 - July 2023*

- Reduced windows update time for update by 20 percent using Kernel Bypassing on Beta tested NIC drivers.
- Customized DPDK on experimental intel NIC drivers to reduce Windows update time.
- Managed the updating and temporary storage of System32 libraries and threads.
- **Skills: C, Low Latency, DPDK.**

Microsoft C++ Desktop Application Developer
Developed Windows in-house accessibility technologies   *August 2023 - Present*

- Led development of accessibility features featured on the Windows 11 Home Page.
- SME for Windows Narrator, refactoring legacy code using **SOLID** principles to enhance performance and maintainability.
- Increased the coverage of Navigation shortcuts by 14 percent.
- **Skills: C++, WinUI3, winrt, Azure.**

WorldQuant BRAIN Research Consultant   **Part Time**
Submitted alphas as a part-time quant researcher through the WorldQuant BRAIN platform.   *Mumbai, India*

- Developed alpha signals using **daily granularity data** for **American equities**, incorporating **price-volume, fundamental, options pricing** and **news sentiment data**.
- Used FastExpression language to construct alphas with **Sharpe ratio > 3.1 and fitness > 1.8**, while maintaining low correlation.
- Ranked in the top 900 globally in the WorldQuant International Quant Championship 2025.
- **Skills: Statistics, Probability, Mathmatics, Python**

Internships

Google Summer Of Code   **March 2020 - July 2020**
In-house Widget Library Extension

- Extended Eclipse SWT's Java Widget Library to support advanced charting functionalities.
- Identified and fixed bugs in the dependent GTK library to enable bi-directional sliders on macOS, ensuring end-to-end delivery of the SWT feature.
- Implemented pie and doughnut charts in a popular charting library to improve discoverability and user awareness.
- **Skills: Java, C, C++, Desktop App Development.**

Machine Learning Quant Project

Neural Network for Statistical Arbitrage
Predictive modeling for dynamic asset pricing

- Established statistical correlation between asset pairs for identifying trading opportunities.
- Trained a neural network to predict price adjustments based on abrupt movements in related assets.
- Engineered features like **price change magnitude, time since disruption, and volatility** for model accuracy.
- **Skills: Python, Machine Learning, Neural Networks, Mathematics, Statistics.**