HIMANSHU BALASAMANTA

+91 9326993986 himanshubb.eee18@iitbhu.ac.in himanshu-balasamanta himanshu-balasamanta

Education

IIT BHU (Banaras Hindu University), Varanasi **May 2018 – May 2022**

B.Tech : Electrical and Electronics Engineering *CGPA- 8.13*

Awards and Recognition

- **Gold Medalist** in WorldQuant International Quant Championship 2025. ID : HB39080
- Selected for **Google Summer of Code 2020**, where I contributed to Eclipse IDE.
- **NTSE Scholar**, awarded to top 750 students nationally.
- **Expert**, Codeforces, **5-star**, CodeChef ID : Balasamanta
- Cleared **IIT JEE 2018** with 99.5 percentile in **JEE Advanced** (AIR 2503), 99 percentile in **JEE Mains** (AIR 5851).

Experience

Microsoft Low Latency C++ developer **Full Time**

Low latency solutions for reducing time taken for windows update on surface devices *May 2024 - Present*

- Reduced windows update time for Drivers 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 *May 2022 - April 2024*

- 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

- Developed a pairs trading model by applying K-means clustering to identify co-moving asset groups based on news-driven reactions, thereby enhancing mispricing detection.
- Engineered a **neural network** for asset mispricing identification from **outputs of K-means clustering** and trained for parameters like **duration of the impact of news, magnitude of price disruption, volume of trades** to predict arbitrage opportunities.
- **Skills: Python, Machine Learning, K-Means Clustering, Neural Networks, Mathematics, Statistics.**