

# BRAJESH KUMAR

## CONTACT DETAILS

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## CORE COMPETENCIES

- ➔ Algorithmic Strategy Development
- ➔ Automated Trade Signal Generation
- ➔ Project Management
- ➔ Real-time Trading Algorithm Optimization
- ➔ Algorithmic Risk Management
- ➔ Market Liquidity Analysis
- ➔ Quantitative Strategy Testing and Validation
- ➔ Dynamic Portfolio Rebalancing
- ➔ Market Behavior Prediction Algorithms
- ➔ Client Relationship Management

## EDUCATION



2022

B.Tech in Petroleum Engineering, Coursework: GeoSciences , Statistical Analysis , Predictive Modelling, GPA: 7.25/10.0

## PUBLICATION

*Numerical simulation of gravity driven turbidity currents using Computational fluid Dynamics*

## SOFT SKILLS

- ➔ Analytical Thinking
- ➔ Effective Communication
- ➔ Cross-functional Collaboration
- ➔ Problem-solving
- ➔ Leadership

## PERSONAL DETAILS

**Address** : Bangalore  
**Date of Birth** : 22<sup>nd</sup> March 1999  
**Languages Known** : English, Hindi

## JOB OBJECTIVE

Result-driven **Quantitative Engineer** with expertise in **algorithmic trading**, **portfolio optimization**, and **risk management**. Targeting to leverage nearly 3 years of experience in developing and deploying automated trading systems, **predictive modeling**, and **data-driven insights** to drive strategic decision-making.

## PROFILE SUMMARY

- ➔ Experienced in developing **algorithmic trading strategies**, utilizing **quantitative analysis**, **predictive modeling**, and **statistical techniques** to optimize trade execution and drive alpha generation.
- ➔ Proficient in designing and deploying automated **trading systems**, improving **execution speed**, **trade signal generation**, and overall market **liquidity analysis** through real-time data processing and advanced algorithms.
- ➔ Specialized in **portfolio management** with expertise in **dynamic portfolio optimization**, leveraging **risk-adjusted return strategies**, **performance analysis**, and **value-at-risk (VAR)** modeling to maximize portfolio growth.
- ➔ Resourceful in developing comprehensive **risk management frameworks**, implementing **market disruption monitoring** tools to identify and mitigate risks like **wash trading**, **market manipulation**, and **high-frequency trading anomalies**.
- ➔ **Skilled in financial data analysis**, proficient in utilizing **Python**, **C#**, **C++** and **SQL** to build data pipelines, process large datasets, and generate actionable insights for algorithmic decision-making and market forecasting.
- ➔ **Proven track record of enhancing automation in trading systems**, contributing to significant improvements in **fill rates**, **trade execution accuracy**, and **real-time monitoring dashboards** for more informed trading decisions.

## TECHNICAL SKILLS

- ➔ **Programming Languages**: Python, C#, C++, SQL (limited), JavaScript (limited)
- ➔ **Development Frameworks**: .NET Framework, Trading Technologies ADL© (Algorithm Development Language)
- ➔ **Data Analysis & Simulation Tools**: ANSYS 2019 R3 CFD, Microsoft Office Suite

## WORK EXPERIENCE

**May'22 – Present | Quantitative Engineer**  
**Futures First – Bangalore**

- ➔ **Increased Automation**: Boosted branch automation fill rate from 22% to 41%, peaking at 45%, by creating efficient, general-purpose trading algorithms.
- ➔ **Automated Analysis**: Developed and automated fill analysis, designing an interactive dashboard for real-time insights.
- ➔ **Risk Monitoring Innovation**: Built a prototype for Risk Management to monitor disruptive market activities such as burst messaging, bad MVR, and market manipulation.
- ➔ **Order/Algo Management Development**: Led the creation of a Portfolio VAR and Market Activity-based order/algo management system, enhancing trading strategy execution.

## ACADEMIC PROJECTS

- ➔ **Project Name**: Numerical approach towards sediment transport modeling using CFD  
**Duration**: May 2021  
**Tech Stack**: ANSYS 2019 R3 CFD, Sediment Transport Modeling, Granular, Non-Newtonian Flow, Turbidity Mud Properties
- ➔ **Project Name**: Characterizing single-phase and complex multiphase flows in porous media using physics-informed generative models  
**Duration**: Jan 2022  
**Tech Stack**: Python, Physics-informed Neural Networks, U-Net Architecture, GAN Architecture, Flow Modeling in Porous Media.