# vinay Singh

Research Scholar

Meticulous and analytical Researcher with 4 years of educational and hands-on experience in Physics especially in **Quantum Entanglement , Quantum Information and Quantum Computing.** Highly interested in **Quantitative Research in Finance, Machine Learning, Data science**


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## EDUCATION

### MSc, Physics
IIT Bombay

*07/2018 - 08/2020* *CPI= 8.94/10*

*Courses*

- Master thesis - Low mass dark matter simulation
- GATE AIR -14

### BSc( Hons) Physics
Kirorimal College, University of Delhi

*07/2015 - 06/2018* *CGPA = 8.55/10*

## WORK EXPERIENCE

### Quantitative Research Intern
Quantinsti Quantitative learning Pvt. Ltd.

*01/2022 - Present* *Mumbai*

*Achievements/Tasks*

- Created a new course named Machine Learning Trading: Linear Regression.
- Performed new changes in Introduction to Machine Learning for Trading.
- Currently writing an article on Fractional derivative
- Helped creating Option Trading from Basics to Advanced level
- Crypto Trading : Intermediate

### Research Scholar
IIT Kanpur

*08/2020 - Present*

*Achievements/Tasks*

- Teaching Assistant.
- Performed research into studying Quantum Coherence and Quantum Entanglement to increase knowledge and ability to provide valuable contributions.
- · Quantum Computing using **Qiskit and Cirq.** · Performed Quantum entanglement experiments and research and documented all findings.

### Research Intern
Karlsruhe Institute of Technology, Karlsruhe, Baden-Württemberg, Germany

*05/2019 - 08/2019*

*Achievements/Tasks*

- **Dark Matter** particle(WIMP) analysis using Simulation Technique in **GEANT4, ROOT and SRIM** Calculated Track Length, Energy Deposit and many other interaction Properties of WIMP particles with Palaeo Detectors, which are radically different from conventional detectors located inside deep underground Labs.

## SKILLS

Excel | SQL | Deep learning | Power BI | Tableau | PySQL | Time Series | Linux | C++ | MongoDB | html | Matplotlib | Python | Matlab | Fortran | Labview | Origin-Pro | Root | Qiskit | Quantum Computing | Machine learning | Pandas | Scikit learn | Seaborn | StreamLit | Heroku

## PERSONAL PROJECTS

Machine Learning program to align mirrors in an Interferometric experiment.

Prediction of GLD market using Machine learning Linear Regression strategy

Build a time series model to predict air quality in Nairobi

Sales insights data analysis project using Power BI

Created a Machine learning model that predicts apartment prices in Buenos Aires, Argentina

Worked with data from Open Data Nepal to build a model to predict building damage from the Nepal 2015 Earthquake.

Altiq Sales insights data analysis project using Tableau

## CERTIFICATES AND ACHIVEMENTS

Applied Data Science lab by WorldQuant University (01/2022 - Present)

Master Stats and Machine Learning by Mike X. Cohen

Python for Trading

Quantum Computing using Qiskit and Cirq

Stock Market Basics by QUANTRA

Trading with Machine Learning Regression

INSPIRE Scholarship by Ministry of S&T , GOI

DAAD Scholarship by German Goverment

## LANGUAGES

English
*Professional Working Proficiency*

Hindi
*Full Professional Proficiency*