

Varun Kannan

Email: varunkannan2000@gmail.com

Phone: 1-630-210-6897

Website: <https://www.qgspinor.com>

LinkedIn: <https://www.linkedin.com/in/varun-kannan-321b58207>

Summary

Theoretical physicist with extensive research experience who's passionate about quantitative finance and mathematical modeling with a focus in algorithmic trading. Enthusiastic about the intersection of theoretical physics, mathematics, and computation as a foundation for both fundamental research and real-world applications.

Education

2018-09 - 2022-06: Bachelor of Science: Physics, Minor in Mathematics

University of California - San Diego - La Jolla, CA

GPA: 3.32 | 3.53 Upper Division | 3.60 Major | 3.8 Upper Division Major

Honors: Provost Honors (5 terms), Salutatorian (HS)

Technical Skills

Programming Languages: Python, Java, Mathematica, C#, JavaScript

Programming related frameworks: NumPy, Pandas, Matplotlib/Plotly, VectorBt, OOP, Multiprocessing

Programming related platforms: Linux, WSL, Jupyter Lab, PyCharm, Android Studio

Projects

Quantitative Trading Model

Skills: Python, Pandas, NumPy, Plotly, VectorBt, Multiprocessing, JSON/Parquet

Designing Trading Strategies which outperform the SP 500 with Sharpe Ratio greater than 1.7, positive profit, and Alpha greater than 1. Focus is on low/medium frequency data, but have also attempted HFT. Use of roll forward analysis across multiple timeframes. Focus on accurate and efficient data extraction, analysis, and storage. Methods used are mean reversion, momentum trending, PCA, and cointegration. The process is being documented on my personal website and the latest version can be found: https://qgspinor.com/projects/coding/version_one

Technical Experience

Quantum Physics Internship:

UCSD Physics Department , La Jolla, CA

Dr. Daniel Green, Associate Professor

Internship (Paid):

06/2021 - 09/2021

- Assisted Professor Green in quantum cosmology research

- Gather and summarize research data from various online technical sources using Mathematica to create representative graphs and summaries highlighting key insights.
- Identified issues in existing models of the theory, analyzed related information and provided solutions to problems by proposing alternate models

Honors Research:

09/2021 - 12/2021

- Continued the previous internship as an official research subproject with the goal of aiding Dr. Green in his research and learning under his mentorship

Independent Study/Research:

03/2021 - 12/2021

UCSD Physics Department , La Jolla, CA

Dr. George Fuller, Distinguished Professor, Former Director of the Center for Astrophysics and Space Science

- A mentorship and research on various topics in the field of General Relativity

Publications and Technical Writing

- Authored a paper with a review from a professor in the field of quantum gravity
- Created the website, <https://www.qgspinor.com>, where I post technical writing, projects, short review articles, derivations, and related exploratory topics in theoretical physics, quantitative analysis, and related mathematics and computing concepts

References

References available upon request