

PARTH GOYAL

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Education

University of St Andrews

Sep 2020 – Jun 2024

BSc (Honours) Financial Economics and Mathematics: On track for First Class

St Andrews, UK

- **Relevant Modules:** Object Oriented Programming, Programming with data, Microeconomics, Macroeconomics, Probability and Combinatorics, Linear Algebra, Multivariate Calculus, Statistical Inference, Econometrics, Game Theory, Asset Pricing, Quantitative Risk Management, Time Series Analysis

Experience

St Andrews Investment Society

October 2022 – Present

Quant Strategist

St Andrews, UK

- Built a Capital Asset pricing model, Sharpe Ratio calculator, and interactive graphs using plotly in python, which is customizable for any portfolio and time period using price feeds from yahoo finance
- Working on arbitrage pricing theory model in python using variables such as interest rates, bond spreads, gold prices, etc., that predicts expected returns and which will be used to calculate optimal portfolio that maximises Sharpe ratio

St Andrews Effective Altruism Society

Sep 2022 – Present

Treasurer and Tutor

St Andrews, UK

- Manage society Treasury and do cost-benefit analyses for allocating funds in order to maximise impact per pound spent
- Conduct Weekly 2-1s and Discussion groups that cover decision-making under uncertainty, using quality of life metrics, expected values, risk, and fermi-estimates to quantify and compare interventions, the AI alignment problem, longtermism, and many other essential concepts to EA
- Run weekly workshops on valuable technical skills for students - How to improve your forecasting ability, framing arguments and analysing effectiveness of charities.

Centre for Effective Altruism

Jun 2022 – Oct 2022

Intro and In-Depth EA participant

Remote, Global

- Learnt and discussed longtermism, heavy-tailed distributions, AI safety, and many other EA criteria causes
- Trained calibration and Fermi estimation using Open Philanthropy's Web App
- Quantitatively evaluated various interventions to understand the most cost-effective and efficient ways of doing good

Risidio (Web 3 Startup)

May 2022 – July 2022

Finance and Investments Intern

London, UK

- Created pricing models in excel for NFTs using comparables and probability distributions
- Analysed on-chain data and back-tested trading strategies to build the data analytics arm of the company
- Collaborated on a decentralized movie platform for Hollywood directors Lucas Foster and Eric Blakeney

University of St Andrews

September 2021 – May 2022

Undergraduate Researcher

St Andrews, UK

- Created a logistic model using python on the housing market in St Andrews. It predicts equilibrium demand and rent based on several characteristics such as income, degree type, and housing features
- Calibrated and estimated coefficients and parameters using scipy.optimize for the model based on the real world data

Quantitative Trading Competitions

February 2022 – April 2022

Citadel X Amplify Challenge & Traders at Berkeley

Remote, UK/USA

- Used Bayesian updating, risk management, price axing and Fermi estimation in market making, strategy games and trading simulations against other participants as a market maker and portfolio manager. Automated this in Python
- Analysed financial data in R for patterns, correlations and distributions to implement a random forest model in python within a team to predict realised returns

Citadel Europe Datathon

March 2022

Competitor

Remote, Europe

- Conducted exploratory data analysis using pandas and seaborn, performed statistical tests in R on supply chain data to find correlations and relationships of various features, using which created a machine learning model with my team that improved prediction of scheduled shipping time by 30%
- Collaborated in a team to create a 12-page research report of our methodology and results

Spring Programs

April 2021-2022

Citadel and Citadel Securities, Jane Street, JP Morgan

London, UK

Extracurricular and Achievements

Courses

March 2022 – Present

Independent

- Brilliant: Casino Probability, Quantitative Finance
- Code academy: Data Science - Machine Learning Specialist career path (In Progress)
- Kaggle: Numpy, Seaborn, Pandas, Machine Learning
- Akuna Capital: Options 101 (In Progress)

Trading and Investing

February 2022 - Present

Independent

- Algorithmic Trading: IMC trading workshop where we built a bot on price axing principles to make markets for the DAX 30 and FTSE 100 across different time periods
- TradFi Investing: Long-term investing in equities and ETFs based on macroeconomics trends
- DeFi: Research whitepapers use staking and liquidity pools to earn interest across DEX and CEXs

Sports and Games

2016 – Present

Independent and Team

- Basketball: Men's 1st team University of St Andrews in league BUCS Tier 2A
- Games: Chess ELO 1500+ on Lichess and Weekly Poker tournaments at University

EconSoc & The Saint

Feb 2020 – Dec 2021

Event Coordinator and Deputy Editor

- EconSoc: Organised several finance-related events for students at St Andrews, which educated participants about cryptocurrencies and current macro environment
- The Saint: wrote articles Bi-Weekly on current finance and crypto events of my interest for the largest student-run newspaper in Scotland

Accuracy Business Cup

November 2020

5th Place UK

- Collaborated in a team to produce a merger proposal for the world's second-largest wine and distillery company: Pernod Ricard, by analysing stock charts and financial data of various companies and conducting in-depth market research

Maths Competitions

July 2019 – Jan 2020

Independent

- American Math Contest: individual national rank (India) 47th in high school
- Waterloo Math Contest: team national rank (India) 3rd in high school

Skills

Technical: **Java** (beginner), **Python:**[Pandas, Seaborn, Matplotlib, Numpy, Scipy, Machine Learning] (intermediate), **R** (intermediate) , **SQL**(beginner)
Languages: Hindi, Russian, English