

# Vighnesh N Ganesh

Analyst, Goldman Sachs | Visiting Researcher, London Business School | Off-roading enthusiast  
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## EDUCATION

**BITS Pilani, Pilani Campus** • Jul 2019 – Jun 2023  
B.E. Computer Science • Minor in Finance

## KEY ACCOMPLISHMENTS

- **Authored a chapter in** Neue Dimensionen in Data Science • [Buy the Book](#)

## PROFESSIONAL EXPERIENCE

**Goldman Sachs, Analyst** • Full time: Jul 2023 – Present & Summer Internship

- **Big Data:** Backfilled 13.5 million records from Goldman's s3 datastore to Mongo DB using **Hadoop**
- **Recurring ETL:** Developed an endpoint to ETL partner data using a scheduled FTP pull with Kafka fallback in Java
- Ideated & organized an event that recorded the highest participation in the all-India Goldman Sachs Hackathon

**London Business School, Visiting Researcher: Quant Modelling** • Aug 2022 – Jul 2023

- **Forecasting:** Modelled imbalance prices of British electricity market using weather & market factors
- **Published the new SOTA** autoregressive Neural Network built with TensorFlow on Python Jupyter notebook: [read](#)
- **Risk Modelling:** Forecasted upper & lower quantiles (1%, 5%, 95%, 99%) using a shared parameter model
  - Reduced the quantile forecast pinball loss by 95% while also achieving 1.5% lower point forecast RMSE
- **Reinforcement Learning:** Ideated and created three Q-learning FCNN agents which can take long or short positions using market, environmental & state variables with live **VaR** calculation (**Sharpe Ratios:** 0.29, 0.47 & 1.6)

**Global Alpha Researcher, Trexquant Investment Ip** • Oct 2022 – Nov 2022

- Used Auction-day effect, mean reversion and yield spread to develop a high IR signal on US Treasury bonds
- Developed three alphas with IR > 0.7 on treasury bonds and commodity futures and productionized a signal
- Worked with the data refresh team to find additional factors to populate the independent variable roster

**University of Warwick, Data Science for Social Good Fellow** • Jun - Aug 2021

[GitHub Link to open source Streamlit application](#)

- Worked with The Federal Ministry for Economic Affairs and Energy of Germany to forecast unemployment rates
- **Reduced MSE by 50%** from 0.3+ to 0.164 by breaking up forecasts county wise & modelling each using SARIMA
- **Built a GUI app** using Matplotlib & GeoPandas on Streamlit to generate **geo-temporal visualization** of forecasts

## ACADEMIC PUBLICATIONS

- Forecasting Imbalance Price Densities with Statistical Methods and Neural Networks • [Read IEEE Article](#)
- Algorithmic Trading of Real-time Electricity with Machine Learning • Under Journal Review

## PERSONAL PROJECTS

**Image Domain Translation using GANs** • Deep Learning

- Adapted NICE-GAN & CycleGAN to translate 3-channel images into 21-channel images to aid security solutions
- Designed a hybrid architecture with 100M+ parameters and trained it on gigabytes of data on remote Linux server

**Correlating the Green Cover of a County to CO2 Emissions** • Landsat Image Processing

- Inferred Correlations using NASA's OCO-2 satellite images for CO2 emissions & calculating the green cover from LANDSAT images using Deep Neural Networks

## EXTRACURRICULARS

**Off-roading** • Trained on flat track racing, adventure/technical trails, focusing on motorcross circuit racing

**Music** • Performed at Guinness World Record concert "Stop Child Labor" & Trinity College Level 4 Percussionist