

# RAHUL VENKATESH

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## EDUCATION

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### National University of Singapore

Master of Science in Data Science and Machine Learning

Singapore

Aug 2023 - Present

### Indian Institute of Technology (IIT), Delhi

Bachelor of Technology in Computer Science and Engineering

New Delhi, India

Jul 2016 - Jun 2020

## TECHNICAL SKILLS

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**Languages:** C++, Python, SQL, Bash

**Tools/Software:** TensorFlow, MongoDB, MySQL, OpenMP, CUDA

## WORK EXPERIENCE

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### Squarepoint Capital

Software Engineer

Paris, France

Aug 2020 - Jun 2023

- Developed and supported (in production) **low-latency** order entry gateways (OEG) for algorithmic trading.
- Built new OEGs to 5+ **exchanges**, including **CME**, **ICE** and **OSE** over OUCH and FIX protocols.
- Designed frameworks for trading 2 new asset classes: **bonds** and **non-deliverable forwards (NDF)**.
- **Improved performance** of gateway application by **collecting and analysing** latency-related **data**.
- Coordinated with QA and delivered numerous new projects (gateways) and business requests (features).
- Documented workflows and automations to streamline developing new gateways and production support.

## PROJECTS

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### Stock Price Prediction

Machine Learning Project

Prof. Nguyen Hung Minh Tan

Oct 2023 - Nov 2023

- Performed time series analysis with **seasonal decomposition** and **stationarity** test to identify patterns.
- Used techniques like **Moving Average** and **Exponential Smoothing** to approximate prices and remove noise.
- Implemented cross-validation and parameter grid search for model selection to reduce bias and overfitting.
- Applied diverse forecasting methods from **ARIMA** (and **VARMAX**) to Recurrent Neural Networks like **LSTM**.

### MiniMovieDB

Database Project

Prof. Yang Xiaoyan

Oct 2023 - Nov 2023

- Developed a **MongoDB** database for managing and storing information about shows, actors and user events.
- Designed **aggregation pipelines** to extract valuable insights, such as identifying popular shows and actors.
- Enhanced query performance by strategic **indexing** and optimized regex searches for faster data retrieval.
- Implemented **FastAPI** endpoints to search, filter, and serve data seamlessly to the web frontend.

## RELEVANT COURSEWORK

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**Mathematics:** Linear Algebra, Calculus, Probability and Stochastic Processes

**Computer Science:** Artificial Intelligence, Machine Learning, Advanced Algorithms