Saksham Agrawal

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Profile

Experienced Finance Student with a demonstrated history of working in the investment management industry along with an experience in team management. Skilled in Data Analysis, Quantitative Analytics, Electronics, Machine Learning, and Trading. Strong research professional currently pursuing a **Bachelor's degree in Computer Science + M.Sc focused in Economics from Birla Institute of Technology and Science, Pilani.**

Professional Experience

Nomura Financial Services   Jul 2021 – present
Global Finance Intern   Mumbai, India
- Part of **Valuation Control Model Validation Team**
- Major responsibilities involve working with valuation teams to **dissect and validate financial procedures**, along with ensuring regulatory compliance of data and valuation models
- Validating models with an impact of **$1M+**

Worldquant LLC.   2018 – Oct 2019
Research Consultant
- **Worked as an alpha researcher.** Developed trading strategies for global markets along with a framework to backtest the same on time series data
- Major strategies approved for production in the US market had **high sharpe with low turnover**.

DRDO, INMAS Lab, Delhi   2018 – Aug 2019
Project Lead
- **The lead of project under DRDO, Delhi,** with an aim to develop a reconnaissance system by using ROS and computer vision **(Applied Machine Learning)**.
- Responsibilities included **codebase development, team management, and maintaining the project timeline**. The main coding language for the software was Python. Phase 1 of the project was completed successfully.

Samhita Social Ventures   May 2019 – Jul 2019
Development Intern   Mumbai, India
- Work was focused on **Business Development and acquiring clients.**
- Major aspects of the work included researching different Social Sectors along with the task of providing a "snapshot" report of all firms investing in the sector.
- Was able to complete a full analysis of Water Conservation sector including a 5 year timeline for the firm with product recommendations and strategies.

Education

Birla Institute Of Technology and Science, Pilani   2017 – present
B.Tech Computer Science + M.Sc. Economics   Goa, India
CGPA: 7.5

IITians PACE   2015 – 2016
Class 12th Maharashtra Board: 87%   Mumbai, India

Atomic Energy Central School   2005 – 2014
Class 10th CBSE Board: 95%   Mumbai, India

Research

Volatility transmission between international markets: Analysis using MGARCH-BEKK model

With increasing globalization, the links between markets have started to become stronger. As a result, markets now hold significant influence on other international markets. The study measures this effect by measuring the volatility transmitted from a market to another. The model used for analysis is the Multivariate GARCH model (BEKK(1,1))

First draft complete. Under review by a journal

2020

Stock market volatility prediction using VAR-ML hybrid model

The aim of this study is to study the next-day prediction accuracy of RNNs, when the input data is the market volatility, as compared to when VAR residual data is used additionally with market volatility.

First draft completed. Under review by a journal

2020

Fixed Income Attribution: Analysis of fixed-income portfolios

Increasing the explainability of fixed income portfolio returns using fixed income attribution. The study analyzes returns of three Indian fixed income portfolios to explain the performance of portfolio managers and using data from the first quarter of 2020

First draft completed. Under peer review

2020

Community analysis of International stock markets

Study focused on exploring community dynamics over the period of 2008-2020. The countries, whose stock markets are analyzed are, India, Japan, China, Singapore, Hong Kong, US & UK. Networks are significantly important for policy makers and investors too, since it enables an analysis of the group behavior of the markets, which is a major aim of the study

First draft completed. Under review by supervising professor

2020

Recession Prediction using Markov Regime Switching Model

The study tests the effectiveness of bond yields in predicting recessions in multiple countries, by using a modification of the Markov regime-switching model, which uses external regressors to calculate a time-varying transition probability developed by Andrew J. Filardo in 1998

First draft completed. Under review by supervising professor

2019

Projects

Project PINAKA

Research project inspired from ETH Zurich. The main aim was to automate flight systems to make high endurance flights using **Artificial Intelligence**. Project received significant funds in 2018-19 and was brought to prototype stage successfully. Major responsibility was **team management and securing funds**

2017 – Sep 2019

Reconnaissance using Networked Robots

The project was done in collaboration with DRDO with the main aim to develop a network of drones for border surveillance.

Oct 2018 – Aug 2019

Awards

Boeing BUILD National Award

Boeing India Pvt. Ltd.

Secured first place in Boeing BUILD for presenting Project PINAKA as a viable product/business model to a jury of Venture Capitalists, after clearing 5 stages of the competition from April to August 2019

Gave a 3 minute elevator pitch in the final round against 36 other teams at Boeing India Headquarters. The presentation included a complete research of the **target sector, competitors and a 5 year market plan** for the proposed product

Aug 2019

CEERI National Innovation Award   Jan 17, 2019
CSIR, CEERI Pilani
Received second position for giving a team presentation on "Project PINAKA"
under the green technologies category. Jury composed of several distinguished
scientists from CEERI Pilani.

Skills

Python   **ROS**
                                              Robot Operating Software
R
                                              LaTex
Java
                                              MySQL

Interests

Artificial Intelligence   **Leadership/ Management**
Worked on several open-source projects related to AI.   *Wish to work in firms that give me a direct exposure to*
Wish to pursue a career developing my skills in AI,   *clients or let me handle teams. Have a strong sense of*
specifically to develop an AI agent which has real life *leadership having managed several technical teams, the*
application.   *past 3 years in college*

Courses/ MOOCs

The Data Scientist's Toolbox   Oct 2018 – Dec 2018
Johns Hopkins University|| Coursera
https://www.coursera.org/account/accomplishments/certificate/JNDDRYTZD5U
C

Applied Plotting, Charting & Data Representation in Python   Aug 2018 – Oct 2018
University of Michigan|| Coursera
https://www.coursera.org/account/accomplishments/verify/F7LG78YCP8WG

Machine Learning   Jun 2018 – Sep 2018
Stanford University || Coursera
https://www.coursera.org/account/accomplishments/certificate/85LHHW7TAKY
D

Introduction to Data Science in Python   Jun 2018 – Jul 2018
University of Michigan || Coursera
https://www.coursera.org/account/accomplishments/certificate/ZFDFK9DY9Y9
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