

Kaushik Sanghani

[Linkedin](#)

Email : i19ma013@amhd.svnit.ac.in

Mobile :+91 9054672821

EDUCATION

- **Sardar Vallabhbhai National Institute of Technology** Surat, India
Masters in Mathematics; CGPA: 8.38 *Aug 2019 - Present*
- **Alpha Vidhya Sankul** Junagadh, India
Class XII GSEB; Percentage: 87.5 *Aug 2017 - May 2019*

SKILLS SUMMARY

- **Languages:** Python, C++, C
- **DataBases:** Postgre
- **Tools:** MatLab, Power BI, AWS
- **Python Libraries:** keras, vectorbt, kiteconnect, pyportopt, quantstats, pandas, numpy, tensorflow, sklearn, fastAPI, otree, pulp

EXPERIENCE

- **aiRender 3D-video chatting platform** Bangalore, India
Project Intern *February 2023 - Current*
 - **hiRender:** My internship project focuses on improving the efficiency and speed of 3D reconstruction. The primary objective is to train a neural network to convert 2D faces to 3D faces, and to optimize the performance of the code by converting it from TensorFlow to TensorRT, a NVIDIA framework for GPU acceleration. The goal of this project is to reduce the 2D-to-3D conversion rate from 220 milliseconds to 20 milliseconds, making it a significant improvement in speed and performance.
- **Indian Institute of Management, Bangalore** Bangalore, India
Research Intern *December 2022 - Current*
 - **Double Auction Financial Market experiment with oTree:** Have worked on the development of a double auction trading platform using oTree markets to analyze and understand participant behavior in various scenarios, such as changes in brokerage fees and temporary trading halt. I utilized technologies such as Django, oTree, and JavaScript under the guidance of Professor Anirudh Dhawan at IIM Bangalore.
 - **Single auction experiment with oTree:** Working on developing the single auction trading platform using oTree to understand psychology regarding the different price trends. I am utilizing technologies such as Django, oTree, and JavaScript under the guidance of Professor Anirudh Dhawan at IIM Bangalore.
- **Xumit Capital** Ahmedabad, India
Quantitative analyst *Nov 2021 - Current*
 - **Factor Investing Portfolio Back-testing and Screening Framework:** Designed and implemented a Factor Investing Portfolio Back-testing and Screening Framework. Utilized various fundamental factors to design portfolios and created an end-to-end back-testing pipeline with automatic evaluation system to test the performance of the portfolios.
Tech-stack: Python, Postgres, eodhistoricaldata-api, Quantstats, Pyportfolio
 - **Option Trading Back-testing Framework and deployment on AWS:** Developed an option trading back-testing framework for analyzing various option strategies (time-based or indicator-based) on historical data. Produced detailed reports on the performance of each strategy and deployed the framework on AWS for real-time implementation.
Tech-stack: Python, Quantstats, Vectorbt, kiteconnect-api, EC2
 - **Backtesting all strategies mentioned in book by Kora Reddy:** Developed a framework for back-testing NIFTY trading strategies from 1995-2022, using the strategies outlined in a book that had results from the period 2000-2009. Utilized the framework to analyze and evaluate the effectiveness of the strategies over the extended time period.
Book name: High Profit Trading Strategies
Tech-stack: Python, Quantstats
 - **Crypto-currency Back-testing Pipeline:** Developed an indicator-based back-testing framework for creating a cryptocurrency portfolio. Utilized historical data to generate detailed performance reports and optimized the portfolio using the insights gained from the analysis.
Tech-stack: Python, Vectorbt
 - **Goal-Based Investing web-app:** Developed a full-stack website for client risk profiling and portfolio recommendations. The website can generate custom portfolios based on client's goals, timeline and risk appetite. Utilized various technologies to build the website and integrated all the functionalities to make it.
Tech-stack: Python, Flask, Postgres, Jinja, SQL-Alchemy, Bootstrap

- **Sentiment Analysis on Commodity News:** Developed a project that automatically scrapes news websites to analyze the sentiment of the market for commodities. Utilized natural language processing techniques to determine the overall sentiment and provided insights on the potential impact on commodity prices.
Tech-stack: Python, NLTK

• WAH! Consulting

Paris, France

Project Intern

October 2021 - December 2021

- **AVYA NGO Project:** Have worked on a project to help to Avya (NGO) for getting registered and doing the market research which include porter 5 forces analysis, SWOT analysis and various solution which can help it grow and spread more awareness in target audience.

PROJECTS

- **Credit Card Fraud Detection:** As a part of my curriculum, I worked on a credit card default prediction project using a logistic regression algorithm. The dataset consisted of information on 307511 credit card holders, with 122 features. I analyzed this data under the guidance of Professor Jayesh M Dodiya, and successfully built a logistic regression model to classify whether a user will default on their loan or not. Additionally, I created a detailed report summarizing my findings and methodology.
Tech-stack: Python, Numpy, Pandas, Sklearn, Matplotlib
- **Pairs Trading:** Have worked on a project in which I have developed pairs trading strategy on INFY and TCS and have also performed back-testing of this trading strategy.
Tech-stack: python, quantstats, matplotlib, sklearn
- **Movie Recommendation System:** Developed an end-to-end movie recommendation system using the TMDB dataset, and deployed it using FastAPI. Utilized machine learning techniques to generate personalized movie recommendations for users.
Tech-stack: Python, Fast-API, sklearn, React
- **Sentiment Analysis on Commodity News:** Developed a project that automatically scrapes news websites to analyze the sentiment of the market for commodities. Utilized natural language processing techniques to determine the overall sentiment and provided insights on the potential impact on commodity prices.
- **Applying ML Models in MNIST Dataset:** Applied different machine learning algorithms on MNIST dataset
- **House Price Prediction on IKIGAI platform:** Worked on a project utilizing decision trees, linear regression, and SVM to predict house prices in Bengaluru. Created an interactive dashboard on the IKIGAI platform, featuring area-wise prices and various interactive charts, as well as an end-to-end project that covers the entire process from data collection to deployment.

ARTICLES

- [Advanced backtesting on NIFTY using Walk-forward Analysis in Python](#)
- [Quality Quantitative Portfolio](#)
- [Dynamic Technical Portfolio](#)
- [Gap Up strategy](#)
- [Pairs Trading: How Institutional Investors Trade in Equity](#)
- [Structure of Exchange Traded Fund](#)

HONORS AND AWARDS

- Innovation in Science Pursuit for Inspired Research (INSPIRE) Fellow
- National Talent Search Examination (NTSE) Scholarship Fellow

ACADEMIC COURSES

Data Structures and Algorithms, Computer Networks, Graph Theory, Data science, Optimization Techniques, Neural Networks, Natural Language Processing.

PROGRAMMING AND DATA SCIENCE COURSES

- QubitbyQubit - Introduction to with IBM Quantum.
- Probabilistic Systems Analysis and Applied Probability(*MIT OpenCourseWare*).
- Linear Algebra by Gilbert Strang(*MIT OpenCourseWare*)
- NLP - Natural Language Processing(*Udemy*)
- Algorithmic trading on kiteconnect platform(*Udemy*)
- The Complete SQL BootCamp: Go from Zero to Hero(*Udemy*)
- The Complete Python BootCamp: Go from Zero to Hero(*Udemy*)
- Python and Flaks Bootcamp: Create A website with Flask(*Udemy*)
- Algorithmic Trading & Quantitative Analysis Using Python(*Udemy*)
- Python for Finance and Algorithmic Trading with QuantConnect(*Udemy*)

OTHER COURSES

Death by Shelly Kagan(*Yale Courses*), Human Behavioural Biology by Prof. Robert Sapolsky(*Stanford Courses*), MIT 14.01 Principles of Microeconomics by Prof. Jonathan Gruber(*MIT OpenCourseWare*), Introduction to Psychology by Prof. Paul Bloom(*Yale Courses*), Brief Introduction to Psychology *NPTEL*, Business Analysis for Engineers by Dr. S Vaidhyasubramaniam(*NPTEL*), Game theory by Prof. Ben Polak(*Yale Courses*) Currency Commodity and Government Securities(*Zerodha Varsity*), Future Trading(*Zerodha Varsity*), Risk Management and Trading Psychology(*Zerodha Varsity*), Option theory for professional Trading(*Zerodha Varsity*), Fundamental Analysis(*Zerodha Varsity*), Technical Analysis(*Zerodha Varsity*), Stock Market Basis(*Zerodha Varsity*)

CO-CURRICULAR ACTIVITIES

- Given two day workshop on Investopedia (Investments) and Algopedia (Algo-trading).
- Worked as Finace Head of Cutting Edge Visionaries Student Chapter.
- Represented District Basket-Ball team at state-level
- Worked as Documentation Executive of National Service Scheme Organization.
- Working on creating End-to-End Algorithmic Trading Series on YouTube, where I teach you how to use programming and mathematical concepts to trade in the market.

INTERESTS AND HOBBIES

- **Interests:**
Machine Learning, Deep learning, NLP, Algorithmic Trading and Testing, system design, Financial Trading, Game theory, Startup and Entrepreneurship
- **Hobbies:**
Reading books, Listening Podcast, Cricket and Basketball