ANAND THEERTHA NAKHATE

LinkedIn | +91-7893528975 | anandtheertha6@gmail.com | GitHub

Skills

- Python | Scala | C++ | C | Java | JavaScript | MongoDB | MySQL | PostgreSQL | NoSQL| KDB | Flask | FasAPI | Git | Pandas
- SQL | Design Pattern | CI/CD | System Design | OOP | OS | Data Base | Computer Networks | Distributed System | Shell | Spark
- Microservices | Distributed Systems | Backend | English, Hindi, Telugu, Kannada– *All professional proficiency or above*

Experience

Starts and Quant, Associate — **Morgan Stanley** — *Mumbai, India* — **07/2022 - Present**
Strats and Quant, Intern — **01/2022 - 06/2022**

- Designed and implemented a metadata cataloging system, streamlining data handling and improving data quality. The system facilitated the onboarding and management of 15,000+ datasets, enhancing data consistency and discoverability, with usage spanning over 1000 individuals and multiple systems
- Optimized the company's data querying system by developing generators for translating complex Pandas-style queries to various datasets in different databases. This improvement enabled over 100 traders and strategists to access and analyze various datasets seamlessly.
- Actively developing an ETL process for the company's data quality system to empower strategy teams across multiple asset classes and market risk divisions, improving their ability to monitor, analyze, and visualize data errors and quality.
- Driving the development of a comprehensive multi-asset class backtesting tool, integrating Python and Scala libraries, to empower traders with robust strategy testing capabilities. Additionally, contributed to the creation of a vast, nuanced dataset for swaptions, leveraging advanced pricing libraries.

Research Intern, Thesis — **Nanyang Technological University** — *Singapore* — **08/2021 - 12/2021**

- Contributed to developing an advanced **Asynchronous Automatic Speech Recognition System** that effectively manages downstream micro-services and facilitates **real-time transcription**. Successfully transcribed and logged one-on-one interview recordings, demonstrating strong attention to detail.
- Pioneered the implementation of **a dynamic toolbox** system for adding and modifying **NLP** modules, bolstering overall system stability. Further enhanced the system's functionality by introducing a **Named Entity Recognition system** to the transcription process.

Software Engineer Intern — **Microsoft** — *Bangalore, India* — **05/2021 - 07/2021**

- Designed and Implemented **Spark Auto-Scale Simulator** in **Scala** using Sparklens that simulates a Spark application based on the event history file from a single run of the Spark application. The simulator provides static executor support, pre-defined time series executor support, and custom auto-scale strategy with fixed scale-up/ scale-down delay support.
- It markedly accelerates operational efficiency by estimating time, cluster utilization, and cost metrics in under a minute - a significant reduction from traditional processing times by over **100 times**.

Summer Research Intern — **Indian Institute of Remote Sensing** — *Dehradun, India* — **05/2019 - 07/2019**

- **Improvement of Software for LiDAR Data - DHAROHAR**: Led the enhancement of DHAROHAR, a software for advanced LiDAR Data Analysis. Utilized Python, PostgreSQL, C++, and Qt to integrate innovative modules for GLCM Texture Extraction and efficient storage and retrieval of 3D Point Cloud Data.
- **Satellite Image Segmentation using UNet Deep Learning Architecture**: Led a project on Satellite Image Segmentation using the UNet Deep Learning Architecture. Successfully trained deep learning models in Keras utilizing transfer learning, even under resource-constrained conditions. Achieved 70% accuracy and Intersection over Union (IOU) score of 0.61 in the semantic segmentation of urban features from high-resolution, multi-spectral satellite images.

Education

Bachelor of Engineering — **Birla Institute of Technology and Science, Pilani** — *Goa, India* — **08/2017 - 06/2022**
- Major in Computer Science **GPA: 9.49/10**

Master of Science — **Birla Institute of Technology and Science, Pilani** — *Goa, India* — **08/2017 - 06/2022**
- Major in Economics **GPA: 9.49/10**

TSBIE (Class 11, 12) — **Fiitjee Junior College** — *Hyderabad, India* — **2017**
- Percentage: 98.7% **GPA: 9.80/10**

Projects

- **Publication - Equity market integration in emerging economies: a network visualization approach**

Mishra, A.K., Theertha, A., Amoncar, I.M. and R L, M. (2022), "Equity market integration in emerging economies: a network visualization approach", Journal of Economic Studies, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JES-07-2021-0343.

- **G20 Financial Market Network Analysis**: Conducted comprehensive research on the changing dynamics of the financial networks of G20 markets spanning from 2004 to 2021. Implemented advanced statistical methodologies, including Granger causality tests and Diebold and Yilmaz's approach (2014, 2015), to uncover the strength, direction, and significance of network edges between markets. The findings, including identifying shock-spreading, shock-absorbing, and bridge markets, provide valuable insights for portfolio managers and researchers in decision-making and analyzing equity markets.
- **Context-Based PDF Search Engine:** Engineered a PDF search engine that allows users to perform context-based searches on the documents, retrieves the top 10 relevant sentences using the vector space model, and highlights the matches of the information needed in the retrieved pages.
- **Chat Application with Encryption**: Developed a secure client-server chat application with RSA encryption. This application provided a secure communication channel, ensuring privacy and data security for users.

Positions of Responsibilities

Teaching Assistant — **Department of Economics - BITS Pilani, Goa** — **05/2021**
- Assisted in instructing courses - Derivatives and Risk Management, Financial Risk Analytics and Management, Business Analysis, and Valuation.

Teaching Assistant — **Department of Computer Science - BITS Pilani, Goa** — **12/2020**
- Provided assistance in the course - Object Oriented Programming. Helped students understand complex concepts and improved their programming skills.

Awards and Recognitions

- Awarded Institutes Merit Scholarship for ranking in the top 1% of a class of 850 students for Semesters: 1, 3, 4, 5, 6, 9, 10; top 3% in Semesters: 2, 7, 8.