Tharun Kumar Reddy Karasani

Masters in Data Science | University of Washington - Seattle | Ex-Goldman Sachs

Profile Summary

Objective - Data Science Graduate student seeking a summer internship in Analytics, ML and DL domains

Summary of Qualifications -
- 2+ years experience in Data domain with focus on Data Engineering, BI and Analytics
- Problem solver and Data Savvy with a strong understanding of data's impact on business
- Practical experience with various ML, DL Algos, ETL, Visualization tools and large data systems
- Ability to interact with peers and stakeholders to drive business impact
- Quick and enthusiastic learner with high adaptability to changing work environments
- Organized multi-tasker with great focus on the effective outcome of the business problem
- Proponent of diversity, inclusion at workplace and can work independently and on team projects

Education

Sep 2021 - Aug 2023

University of Washington - Seattle
Master of Science in Data Science
Relevant UW coursework -
  Applied Statistics, Statistical Machine Learning, Scalable Data Systems & Algorithms
Additional coursework -
  Coursera: Deep Learning Specialization, Deep Learning with CV and NLP
  Udemy: Machine Learning A to Z, Deep Learning and AI

Jun 2015 - Apr 2019

Vellore Institute of Technology (VIT) - Vellore, Tamil Nadu
Bachelor of Technology in Electronics and Communication Engineering
Program Representative of the department (PR). **CGPA: 9.63 / 10.00 (US 3.9)**

Work and Research Experience

Jan 2019 - Jul 2021

BI Specialist - Advanced Analytics
Goldman Sachs - Bengaluru, India
- Performed advanced analytics and Data science techniques on top of the BI layer to generate business insights for operational efficiency
- Achieved 70% reduction in Trade Fail rate by deploying ensemble and pattern mining **ML algorithms** that exposed the trade flow bottlenecks
- Productionized unsupervised models that reduced manual intervention by 30% after identifying the manual touch point patterns in trade settlement workflow
- Improved processing speed by 50% for scheduled ETL jobs by pipelining data through **PySPARK refiners** and leveraging OLAP models
- Optimized the data engineering framework for multiple trade workflow systems by developing firmwide data source integration APIs
- Automated the ETL jobs SDLC process by integrating with GitLab version control framework
- Enhanced the code fail resolution mechanism for benchmark and threshold breaches by leveraging JIRA API in the control framework
- Enabled Data-driven decision making by publicizing powerful **Tableau** dashboards
- Partnered with 4 global teams to understand their business requirements and workflow process

Jul 2018 - Sep 2018

Machine Learning and Big Data Researcher
VIT - Vellore, India
- Analyzed in real-time the usage of underground water in a village using **Machine Learning** and basic **Hadoop** ecosystem components
- Deployed a system of sensors, and coded microcomputers to capture and transmit the real-time field data to the executor nodes
- Monitored an average excess usage reduction of **200 gallons** per family post prototype deployment
- Leveraged **regression models** to predict the water resource availability based on the current consumption metrics
- Automated the extraction, processing pipeline and storage using PySPARK and HDFS
- Productionized the **Tableau** dashboard layer to monitor the availability and usage of water resources

Apr 2017 - May 2017

Embedded System Design Intern
Electronics Corporation of India Limited (ECIL) - Hyderabad, India
- Developed a vehicle to vehicle communication (V2V) system for prototype vehicles
- Improved model efficiency by deploying smart IOT devices and connectivity over cloud
- Worked with different micro controllers and their interfaces with respective sensor modules

Personal Info

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My Portfolio
https://karasanitarunreddy.wixsite.com/my-site

GitHub
https://github.com/TharunKumarReddy5

Framework Expertise

Data Engineering ●●●●●

Prescriptive Analytics ●●●●○

Project Management ●●●●○

Machine and Deep Learning ●●●○○

Data Visualization ●●●○○

Big Data Eco-System ●●●○○

API ●●●○○

Languages

Python ●●●●○

SQL ●●●●○

C , C++ ●●●●○

R ●●●○○

Java, PySpark ●●●○○

Scala ●●○○○

Certifications

★ Alteryx Designer Advanced and Core

★ Machine Learning

★ Tableau specialist - Data school

★ SQL and Data Warehousing

Project Experience

Jun 2020   **COVID-19 Infection dynamics and Vaccine Distribution**
- Deployed epidemiology ML model to forecast the Coronavirus spread in INDIA and USA with and without vaccination
- Proposed a vaccine distribution algorithm to reach the safety point with less fatalities
- Captured the time varying nature of the virus spread by improving Time-dependent SIR model
- Added vaccination state to the SIR model to understand the urgency in the states of India
- Provided a Dashboard layer to perform post facto and ex ante analysis
- Presented the research paper and published findings at ITNG 2021 conference

Apr 2020   **Trading Metrics - Data Model Creation**
- Built an ETL pipeline that stiches all the trade data top to bottom and created a universal data model for business consumption
- Cross trained with 3 global teams to onboard and integrate multiple system data models
- Interacted with traders and sales teams to understand the client trading behavior and finalize useful data metrics
- Exposed KPIs and trading opportunities over the Tableau Dashboard for daily consumption
- Worked with Slang (GS Native) scripts to integrate with Presto for trade data extraction

Mar 2019   **Trade Fail Root cause Analysis**
- Leveraged Ensemble and Pattern mining ML Algorithms to identify trade settlement fail root causes
- Deployed clustering algorithms to sample unbiased data for model to detect generalized patterns
- Actively interacted with business heads and SMEs to eliminate noise in the predictions by knowing more about the nature of the business
- Developed visualization layer using Tableau to exhibit weekly data patterns to stakeholders to facilitate their operations
- Integrated GitLab to track the status of settlement fail resolution process that helped in resource management

Oct 2018   **Water Usage Monitoring & Regulation (Real World Solution)**
- Developed a system for monitoring of groundwater availability, usage and forecast in the city of Vellore, INDIA
- An automated system was created to measure and transmit the amount of water consumed
- Used ML models to forecast the water availability and visualized it using tableau
- Designed a website for user details and login for water bill payments

Sep 2018   **Smart Face recognition and status monitoring**
- Developed a face recognition system for automatic student classroom attendance
- Launched an Android application for teachers to monitor the status of students in class
- Leveraged BIG DATA applications for data pipelining and processing

Jul 2018   **Target – Web Intelligence**
- Re-hosted existing company data from MySQL DB into Hadoop HDFS
- Crawled product data from top competitor company websites using python
- Handled massive amount of data by means of its cluster nodes and also satisfied the scaling needs of the Target business operation

Achievements

Jan 2021   • ITNG21 Springer conference Research paper presentation

Aug 2020   • Goldman Sachs **COVID-19** Datathon Winner

Mar 2018   • The prestigious **"Merit Scholarship"** winner for three consecutive years.

                • Idea presentation at "**TARP SET**" conference.

                • JOHNSON CONTROLS **Make-A-Thon Finalist**.

Publications

Feb 2021   **Springer -** A Comprehensive Analysis of SARS-CoV-2 in India (Co-Author)

Mar 2018   **IEEE -** Monitoring of Groundwater level and Development of Control Mechanism based on Machine Learning Algorithm (Research Assistant)

Volunteer and Leadership Activities

• Volunteer at Community Teamwork and **Analytics for good**

• Volunteer and Public Relations Fellow for **Make A Difference**, an NGO

• Program Representative Head of ECE department (PR) **SENSE VIT**

• Core Committee member in **The Electronics Club (TEC)**

• Senior Coordinator at **IEEE MTTS** chapter