

Hemanth Sai Somarouthu

+1(409)-466-7652 | shsai1996@gmail.com | Beaumont, TX | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

SUMMARY

I am a highly motivated Master's student graduating in May 2024 with a strong background in machine learning, full-stack development, and data engineering with 3+ years of Experience in total. My education and hands-on experience have equipped me with the skills and knowledge needed to excel in these domains. I am actively seeking job opportunities that will allow me to apply and expand upon my expertise in these areas.

EXPERIENCE

Research Assistant, Lamar University

Jun 2023 – Present

- Implementing appropriate ML algorithms, and conducting experiments.
- In this project, a fast algorithm is presented to analyze AIS data and separate them into tours and trips. The proposed algorithm also finds vessels directions as inbound, outbound, and stop.
- Using segmentation technique, we could analyze traffic behavior for the whole channel or specific segments to provide comprehensive or meticulous results.
- Finally, the methodology is applied to the Houston Ship Channel (HSC) as a case study with one month of AIS data, and traffic features such as travel speed, traffic density, traffic flow, trip attraction, trip generation, and Origin-Destination (O-D) matrices are quantified for different types of vessels with different widths and drafts at different segment

Software Engineering Internship, Dallas Review Consultancy

Jun 2023 - Aug 2023

- Developed and maintains scalable data pipelines and builds out new API integrations to support continuing increases in data volume and complexity.
- Collaborated with analytics and business teams to improve data models that feed business intelligence tools, increasing data accessibility and fostering data-driven decision making across the organization.
- Implemented processes and systems to monitor data quality, ensuring production data is always accurate and available for key stakeholders and business processes that depend on it.
- Writes unit/integration tests, contributes to engineering wiki, and documents work.
- Performs data analysis required to troubleshoot data related issues and assist in the resolution of data issues.
- Worked closely with a team of frontend and backend engineers, product managers, and analysts.
- Defines company data assets (data models), spark, sparkSQL, Azure Synapse to populate data models.
- Designed data integrations and data quality framework.
- Designed and evaluates open source and vendor tools for data lineage.
- Works closely with all business units and engineering teams to develop strategy for long term data platform architecture.

Front End Developer and Data Engineer, Tata Consultancy Services

Aug 2020 - Jul 2022

a)Front End:-

- Developing adaptive and dynamic web apps.
- Conducting product analysis for responsive/mobile design, cross-browser development, and version control.
- Expertise in Java/JavaScript frameworks, HTML/CSS, Angular, Springboot, and Django programming languages.
- Providing complete front-end software.
- Collaborated with back-end developers to develop REST API.
- Developing front-end application and asset infrastructure.
- Develop responsive, interactive, and high-performing web apps.
- Debug and unit-test application code, and develop new directives and components.
- Configured, built, and tested scripts for continuous integration.
- Generating non-blocking code using advanced approaches like multi-threading.
- Engaging with external online services.
- Writing clear HTML, JavaScript, and CSS code.
- Making webpages accessible on several platforms, such as computers and cellphones.

b)Data Engineer:-

- Migrated SQL databases to Azure Data Lake, Analytics, Data Bricks, and Warehouse, controlled access, and migrated on-premise databases to Azure Data lake store using Azure Data factory.
- Developed Spark apps in Databricks utilizing Spark-SQL for data extraction, processing, and aggregation from various file formats to analyze customer usage patterns.

- Proficient with Spark Architecture, including Core, SQL, Data Frames, Streaming, Driver Nodes, Worker Nodes, Stages, Executors, and Tasks.
- Expertise in MS SQL Server Integration Services (SSIS), T-SQL, stored procedures, and triggers.
- Created Spark apps using Pyspark and Spark-SQL to analyze and manipulate data from various file formats to gain insights into client usage trends. Strong knowledge of Big Data Hadoop and Yarn architecture, Job Tracker, Task Tracker, Name Node, Data Node, Resource/Cluster Manager, and Kafka. Design and implement Azure SQL Data Warehouse as well in AWS Redshift and SQL database solutions.
- Expertise in database design and development for business intelligence using SQL Server 2014/2016, SSIS, DTS Packages, SSAS, OLAP Cubes, Star Schema, and Snowflake Schema. ADF, IR, File System Data Ingestion, Relational Data Ingestion. Mixed DevOps role: Azure Architect/System Engineering, network and data engineering. Excellent communication, work ethic, and proactive team player with a positive mindset.
- Created, monitored, and restored Azure SQL database. Moved Microsoft SQL server to Azure SQL.
- Developed ETL mapping for collected data from several feeds using REST API. Mobile, social, Facebook Query Language, YouTube, Twitter, online, and partner feeds provide data.
- Proficient in project life cycle phases (Design, Analysis, Implementation, Testing).

Android HMI Developer and Infotainment Developer, People Tech Group Inc

June 2019 – July 2020

- Created world-class in-vehicle apps for GM Infotainment systems.
- Managed the complete software development life cycle for Infotainment software, including requirements, system design, development, implementation, and maintenance.
- Contributed to architecture, requirements, design, code, and test case reviews.
- Ensured clear and complete documentation based on software development process specification.
- Worked & collaboratively with team members in Scrum/Agile software development.
- Develop new features, maintain current ones, and fix bugs.

PROJECTS

AIS-analytic-method using ML technology

- A data analysis method to process AIS data and capture traffic features.
- Automatic Identification System (AIS) is a maritime safety and vessel navigation system that automatically sends an AIS record every 2 to 30 seconds based on vessel speed. Using ML algorithms above features are predicted.

Smart campus project design and implimentation on raspberry pi on IOT platform by python approach

- A Smart campus is intended to connect the worldwide education resources to faculty and students contributing in intellectual development using VOIP and Full stack technology.

Designing and Development of VOIP(Voice over internet protocol)

- In VOIP we built a network where all the devices will be connected to that network through WIFI which acts backbone and devices communicate with each other like making calls(Audio+Video) without telecom network and used IVRS for making end user to use this arrangement comfortable. Not only calling thing but messaging, etc can be done

EDUCATION

Masters of Science, Computer Science

Aug 2022 - May 2024

Lamar University

GPA: 4.0

Bachelor of Technology, Electronics and Communication Engineering

Jul 2015 - May 2019

Jawaharlal Nehru Technological University

Percentage: 75

SKILLS

Environments and Development Tools Familier with: Windows, Ubuntu, Kali Linux, MacOS, Microsoft Office, Git, Notepad++, Eclipse, VScode, Visual Studio, Android Studio, Xcode, Eclipse, Netbeans, Google Colab.

Programming Languages and Frameworks: Python, Java, Javascript, HTML/CSS, Android Studio, Bash, Apache Spark/Apache Kafka, Angular, ExpressJS, NodeJS, Django.

Cloud and Databse Management Skills: MySQL, SQLite, AWS, Microsoft Azure, snowflake, SQL server, ETL Pipeline, AWS Redshift, DynamoDB, Azure Data lake, Data factory, Azure Databricks, Azure SQL database, Azure SQL Datawarehouse, Python, Spark SQL, MSBI (SSIS), Data Visualization, Data Migration, SQL Server programming.

Machine Learning: NLP, Classification, Numpy, Pandas, Sklearn, Transforms, Convolutional neural network.