

Sri Vishnu Gopinathan

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Education

University of Houston, Victoria, TX

December 2023

- Masters in Computer Science
- GPA: 4.0

Anna University, India

April 2020

- Bachelor of Engineering in Electronics and Communication Engineering
- GPA: 3.92

Skills

- **Programming Languages:** Python, pySpark, DAX, Power Query, Java, JavaScript, HTML5, Angular JS 2, CSS, Express JS, React JS, Node JS and SQL.
- **Technologies/Frameworks:** Tensorflow, Pytorch, Keras, Sci-Kit Learn, Kafka, Azure Data Bricks, Azure Data Lake, AWS, NLP, Power BI, Numpy, Pandas, tkinter, Matplotlib, Spring, Hibernate, JPA, JDBC, AJAX, UI design and Workflow Automation.
- **Relevant Training :** Data Science, Machine Learning, Deep Learning, AI Modelling, NLP, Topic Modelling, Feature extraction, Text generation through LSTM and RNN, Data Visualization, Data Analysis, Data integration, Full Stack Development and Talend.
- **Tools:** PowerBI, Azure Data Bricks, Azure AI, PEGA, Power BI, Jupyter Notebook, Visual Studio Code, Talend, AWS, Jenkins and Maven.
- **Databases :** Oracle, SQL Server and MongoDB.

Certification

- Azure AI Fundamentals (AI-900)
- Certified System Architect in Pega 7.4
- Certified Senior System Architect in Pega (8.1 and 8.3)
- Natural Language Processing using Python.

Work Experience

Software Engineer-Formosa Plastics Corporation, Point Comfort, TX.

Feb 2024-Present

- Actively working on creating and managing REST API's and integration between systems using **Python Flask** and **Talend**.
- Extracting data from legacy systems such as AS400 and enhancing data quality by employing various data cleansing and transformation techniques using **Python**.
- Involving in the migration process of the enterprise level data from legacy systems to SQL servers through **Talend**.
- Implementing Automation jobs and schedulers using **Talend Cloud** for ETL tasks and system integrations.
- Developing complex visualization dashboards and reports using **Power BI**, **Power Query** and **DAX** for tracking performance and usage of High-Capital assets in production plants, status of on-going operations along with the workforce, performance analysis of employees etc.
- Developing an interactive survey form using **ExpressJS** and **ReactJS** to promote vanpool options for commuters. Deploying the application in **AWS**, ensuring seamless access and using **S3 Buckets** for secure data storage.

Summer Associate- Navy Federal Credit Union, Vienna, VA.

June 2023 - August 2023

- Conducted extensive **Big Data Analytics** for identifying the risk metrics involved in Credit Card Collections by analyzing huge volumes of member's data, and fostered the **Performance Optimization** of a **Time-Series model**.
- Collaborated seamlessly with cross-functional teams to identify critical features, data sources and strategically selected key metrics for exploratory data analysis (EDA).
- Leveraged **Azure Databricks**, **Azure Data Lake** and **MySQL** to analyze large and complex data structures.
- Applied advanced **pySpark** techniques for data extraction, cleansing, feature importance and statistical analysis for diverse range of member attributes.
- Transformed analytical findings into compelling visualizations and dashboards using **Power BI**.
- Actively involved in the integration of **Kafka** for data streaming, a pivotal enhancement that enabled real-time data processing and analysis.
- Worked on **pyTorch** and **TensorFlow** frameworks to study and enhance the performance of the **Prophet** model that forecasts Credit Card Collection's returns for a given month.
- Effectively communicated complex data insights through visualizations and descriptive findings to technical, non-technical stakeholders and business leadership, facilitating informed strategic decisions.
- Contributed to enhancing the organization's data-driven culture by championing the use of data analytics in categorizing members into low, high and medium risk categories based on identified risk metrics for better resource allocation and decision-making.

Research Assistant-University of Houston, Victoria, TX.

August 2022 - December 2023

- Worked as a Research Assistant in University of Houston-Victoria under Dr. Wan in the Computer Science department.
- Collaborated on research investigating human social behavior and predictive patterns, using the raw data from 'yelp' web URLs.
- Employed **advanced data cleansing techniques** and conducted **in-depth analysis** on Yelp datasets by leveraging **Numpy** and **Pandas** libraries in Python for efficient **data manipulation**.
- Published **AI journal papers** focused on student counseling systems.
- Developed **Neural Network Model** for **Regression analysis** to predict the success rate of transfer students.
- Prompted the implementation of a data collection process through surveys conducted with students from North Eastern Illinois University and stored the collected data in **MongoDB** for model training purposes.
- Subjected the collected data in **MongoDB** to **data wrangling** processes and **analysis** for determining **co-relations** and **feature importance** from a diverse range of academic, demographic, student's interests and financial data collected.
- Designed **Sequential model** with a wide range of input parameters utilizing **Tensor Flow** and **Keras** libraries.
- Performed pre-processing and scaling for the training data using **Scikit-learn** in python.
- Implemented **Hyper Parameter Tuning** methods for the Deep Learning model through **Grid Search CV** and **Randomized Search CV techniques** to find optimal configurations for the model such as learning rate, activation function, drop out rates, units, optimizers and epochs. This resulted in significant drop in error rates during model validation and prediction.
- Utilized **Flask** to successfully handle **API** calls from web application for model inference, training and testing.

Software Engineer – Tata Consultancy Services (TCS), Bengaluru, India.

October 2020 to July 2022

- Designed and implemented **Micro services** architecture using **Spring Boot** and **Spring Integration** for medical web application tailored to create, read and update patient's records.
- Worked on model layer development through **Spring** modules, including **IOC**, **AOP**, **ORM**, and **Batch**, with hands-on experience in **Hibernate** and **JPA** frameworks.
- Configured **AWS EC2** instances and worked on enhancing user experiences by designing new web features using **Express JS** and **Node JS**.
- Implemented modernization of a legacy UI using **Angular JS 2**, **CSS**, **Node JS**, and **AWS** services.
- Utilized **Oracle Coherence** in Java API to read and modify data.
- Involved in writing **JUNIT** test cases and day to day builds and deployments using **Maven** and **Jenkins**.
- Created and managed **UNIX** shell scripts for automated data processing, along with overseeing Git repositories and version control.
- Utilized **JIRA** and **HP ALM** for efficient bug tracking, issue tracking, and project management.

Publications

- Wan, Yun; Gopinathan, Sri Vishnu; Aggarwal, Palvi; Bogle, Sherrere; Rayana, Shebuti; and Wang, Xiwei, "A Survey of Student Counseling Systems: Functions, Designs, and Interactions" (2023). AMCIS 2023 TREOs. 11.