



PAVITHRA COIMBATORE SAINATH

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<https://github.com/PavithraCS25?tab=repositories>

## EXPERIENCE – 8 years of programming and Data science expertise

### LyfnGo, Singapore

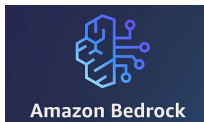
Feb 2024 - Present

#### GenAI Solutions Lead

- Led the development and implementation of AI-driven solutions using **AWS Bedrock** and **SageMaker** in the healthcare domain to enhance the startup's value proposition.
- Provided guidance, mentorship, and leadership to the team of AI developers, data scientists, and domain experts working on health AI initiatives.
- Conducted research on emerging AI technologies and methodologies relevant to healthcare, and oversaw the development of innovative AI solutions tailored to the company's needs.



Amazon SageMaker



Amazon Bedrock



Hugging Face

### EssenceMediaCom - GroupM, Singapore

Nov 2021 - Present

#### Associate Director

May 2023 – Present

- Led the development WPP Global initiative of using **Gemini Ultra vision (Multi-modal GenAI)**, to streamline feature extraction and data generation from video assets to accelerate creative analytics, presented it in GoogleNext24 at Las Vegas
- Inference **Generative AI BLIP and CLIP community models** (hugging face) to summarize the context of video creatives to understand the impact of context in creative performance
- Created an vendor invoice **large language model** using **Anthropic Claude and FAISS**, to understand the spend on a specific vendor across clients.
- Implemented a **Retrieval Augmented Generation (RAG)** system using **Milvus DB** to manage B2B content syndication documents. Utilized a **Conversation Retrieval chain** powered by the **Langchain** framework and the **llama 7B chat** model to address inquiries concerning the impact of context on lead generation.
- Developed a standardized data source for over 77,000 creatives utilizing **OpenCV vision capture**, leveraging scaling through parallelization and multithreading. This scalable solution serves as a pivotal data source for creative testing, facilitating seamless integration and analysis.
- Modelled pre-flight check analysis using **Random forest regressor** to determine the features that contribute to higher stat sig lifts in different digital touch points
- Performed Marketing mix model for get better **ROI** using **Log linear regression addressing negative inequality constraints** using **GCP vertex AI** workbench, and provided insights to business leaders to help in effective campaign planning
- Translated business opportunities into actionable analytics requirements and recommended solutions, contributing to winning a significant pitch for a food and delivery client in the APJ region through **source-of-growth analysis**

#### Senior Analytics Manager

Nov 2021 – May 2023

- Built and evaluated the performance of brand and non-brand paid search keywords using **Python**, **Google BigQuery** and **looker studio**
- Built ensembled **XGBoost classifier** models to predict conversion rate using the features of video creatives
- Conceptualized, Designed and implemented Martech Diagnostic system using **GCP Cloud Functions**, **Adverity** and **Data Studio** to monitor campaigns and traffic patterns
- Built creative based **reach and frequency analysis** dashboard to define the campaign's optimal number of creatives for efficient content management



LangChain



Google Cloud



Vertex.ai



Meta AI



Gemini



Hugging Face

**Data Analyst**

Jan 2020 – Jul 2020

- Employed foundational analysis techniques to predict market behaviour for options over futures, enabling informed decision-making. Utilized **Tableau** and **KDB+ q programming** for analysis and visualization.
- Engineered a **Knowledge Management System** using **Python** and **AWS cloud storage**, integrating Text Mining techniques to construct and manage metadata tables. Enhanced data accessibility and utilization by enabling seamless integration with downstream systems.
- Performed comprehensive analysis and generated daily reports on Securities Market trends, covering open, midday, close auction, and end-of-day trade activities at the market level. Delivered valuable insights crucial for decision-making and strategic planning utilizing **Tableau**.
- Developed an internal Text Classification model utilizing **Fasttext** embeddings and an **LSTM classifier** to analyze trade documents. Enhanced document categorization accuracy, streamlining information retrieval processes effectively.

**Internship**

May 2019 - Nov 2019

- Analyzed and reported daily trend of **Derivatives Market** for the past 12-month period
- Measured the Volume change to the Expiry months of various products in the Derivatives Market
- Played a pivotal role in delivering an analytics solution that seamlessly integrated with SGX's Titan Hub product launch website, contributing to the successful launch and ensuring data-driven insights for users
- Created business dashboards showcasing the product level volume changes in Derivatives Market using Advanced **Tableau** Techniques like Actions and parameterized values

**Robert Bosch Engineering Business Solutions, India – Process Analyst**

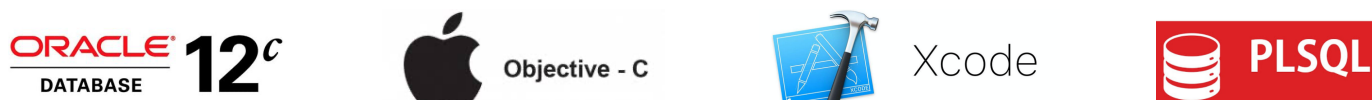
Apr 2016 – Jan 2018

- Developed bespoke KPI dashboard using **Python** and **Tableau**, resulting in a 10% increase in production output, **enhancing manufacturing standards** for stakeholders including Volkswagen and Ferrari.
- Implemented A/B testing to compare the effectiveness of the new processes on clients who adopted them versus stakeholders who did not, providing actionable insights for further optimization.
- Applied Interactive **Explanatory data analysis** to help strategic initiatives, roadmaps, and process models for continuous process improvement for **Electric Power Steering** units
- Implemented automated reporting systems using **SQL**, **Python** and **Dash**, reducing manual reporting efforts by 50% and enabling stakeholders to prioritize strategic initiatives, benefiting OEMs in their pursuit of excellence.

**Infosys – Bangalore, India - Systems Engineer**

Jun 2014 - Apr 2016

- Created product **data** warehouse application using **Objective-C** and **Oracle 12c for Apple**
- Effectively stored and retrieved confidential Apple product information using **SQL** queries, and **PL/SQL** packages

**Singapore Management University - Singapore**

Jan 2019 – Apr 2020

**Product Classification on E-commerce Catalog**

- Developed a **Machine Learning Model** using **Text Classification** techniques to classify the Shopee's products with an accuracy of **99.8%** at category level and **83%** at the sub-category level
- Ensembled different Text Classification models to improve the overall accuracy of the model to **85%** at the sub-category level
- Developed an **Image processing model** using **LeNet-5** and compared the **prediction results** with the prior text classification model

**Dengue Outbreak Analysis**

- Studied Dengue Outbreak in Taiwan over the last 20-year Period using **Spatial-Temporal Analysis** and Imported dengue case analysis from other countries
- Developed a generalized [R shiny application](#) to adopt other countries Dengue analysis

**Customer Analysis using Customer Shopping Behavior**

- Build personalized recommendation based on the user clicks using the **USER-USER Similarity Collaborative filtering** in **Excel**
- Performed RFM segmentation and analyzed the customer purchase behavior using **Market-Basket Analysis (Apriori)** and created Personalized recommendation system using **Python** and **SAS Enterprise Miner**

## Exploratory Analysis using Tableau

- Conducted [Exploratory Cohort Analysis](#) by Age, Sex and Region for the population data of Singapore to help the Singapore two planning
- Analyzed and created a detailed report on the VAST Challenge 2019 dataset using [Radiation Spread Analysis and Anomaly Detection](#)



## Skills

- **Technical Skills** – Python, SQL, Streamlit, R, Oracle 12C, MySQL
- **ML and Gen AI** - Large language models, Generative models, Text summarization, question answering chatbot, Conversational retrieval bot, Classification, Regression, Clustering, Multimodality (Image, video, text), Music recognition
- **Tools** - Anaconda Navigator, Spyder, Jupyter Notebook, AWS Data and ML tools, GCP data and ML suite, SAS Enterprise Miner, Tableau Prep Builder, Tableau Desktop & Server, JMP Pro 14, Adobe analytics, Google campaign manager, Google suite, GA 360/Google analytics 4, Microsoft Office suite,
- **Python Packages** - Pandas, NumPy, sklearn, Keras, Fasttext, NLTK, seaborn, Dash, Matplotlib, Plotly, Tensorflow, opencv, google vision, MilvusDB, FAISS, Anthropic Cluade, LLAMA, Gemini pro, Gemini ultra vision, BLIP, CLIP, GPT, Mistral, Langchain
- **Data Viz Tools** - Tableau Desktop & Server, Power BI, Google data studio, AWS quick sight, R shiny, Dash, Datorama salesforce

## Education

SINGAPORE MANAGEMENT UNIVERSITY - Singapore

Jan 2019 - Apr 2020

**Master of IT in Business [Analytics] (CGPA - 3.38/4)**

- Specialized in Applied Machine Learning and Visual Analytics

ANNA UNIVERSITY - India

Aug 2010 - May 2014

**Bachelor of Technology in Information Technology (CGPA - 8.34/10)**

- Specialized in Database Management Systems

## Brands worked



## Few client and stakeholder appreciations

From: [redacted]@bosch.com  
Sent: Monday, October 24, 2016 12:37 AM  
To: Pavithra Coimbatore Sainath (RBEI/ETC1) <Pavithra.CoimbatoreSainath@in.bosch.com>  
Subject: Feedback

Dear Pavithra,

I hope you had a save trip home.

I would like to thank you for your stay in Germany – during the training both Maik and me were excited, how quick you were able to implement the new tasks, use new tools and how big your progress was. You were did not finish only the EPG related task being planned for this week but also were able to clarify a lot of items regarding CPC.

It is a pleasure for me to work with you.

Mit freundlichen Grüßen / Best regards

Manager Engineering Process Group  
Geschäftsfeld PKW / Business Field Pass. Cars

Robert Bosch Automotive Steering GmbH  
Richard-Bullinger-Str. 77  
D-73527 Schwäbisch Gmünd

## Feedback for Pavithra on CMD dashboard



[Reply](#) [Reply All](#) [Forward](#) [More](#)

Wed 10/5/2023 5:54 pm

Hi Krishna,

I would like to give my feedback for Pavithra on building CMD dashboard. She has done a fabulous job to get this dashboard out, which will help to check our campaign performance on a weekly basis. She has paid utmost attention to the data and made sure all the formulas and calculations are correct and has been populated timely. She also collaborate well with the MOSS team for any clarification required to build the dashboard. Thanks for all your help and patience, Pavithra. Glad to work with you on this project and hope we continue our partnership in other projects as well.

Regards

marketing programs and digital analytics lead  
Dell Technologies | APJ Integrated Marketing

## Re: Frames for 77K video assets



Start your reply all with: [Thank you!](#) [Thank you so much!](#) [Thank you. I appreciate that.](#) [Feedback](#)

This is awesome Pavithra and will get this looked into. Huge well done!



thank you. For the short turnaround (and late nights / early mornings) I think this was a great effort.

for reference - here is what was shared with the client

## Sample Work



[Taiwan Dengue Analysis  
R shiny Dashboard](#)



[SG Population Study  
Tableau Dashboard](#)



[VAST Challenge  
Tableau Dashboard](#)