# Srimugunthan Dhandapani
## Data Science & GenAI -Technical Lead | AI Systems Architect

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## EDUCATION

**Executive MBA** in product leadership
**Institute of Product leadership ,** Bangalore **2024**

**MSc(Engg)** in Computer Science, **Indian Institute of science**, Bangalore **2012**

**B.E** in computer science , **Madras institute of technology**, chennai.**2005**

## CERTIFICATES:

**Certified Associate in Project Management (CAPM)** certificate from Project management institute

**Generative AI engineer certification** from Association of Data Scientists India (ADASCI)

**Data scientist certificate** from jigsaw academy

**Causal AI certificate** Udemy

**GCP professional ML engineer** certificate

## AREA OF EXPERTISE

- Data Science
- Prompt engineering
- Predictive Modelling
- Regression
- Classification models
- Big Data Analytics
- Deep Learning
- Recommender systems
- A/B Testing & experimentation
- Statistical Analysis and Hypothesis testing
- Causal inference

## TECHNICAL SKILLS

## PROFILE SUMMARY

1. Seasoned tech professional with ~14 years of experience in tech industry across various product companies , ~10 years of experience in Data analytics and ~4 years experience in Embedded systems. My key value proposition is to help my employer with finding AI use cases, build and develop AI models, deploy models and realise returns on investment.
2. I have a proven track record of delivering models for data products. Successfully delivered and deployed 5 machine learning models and was involved in ~10 machine learning projects
3. As Team/Project Lead, I have Led several AI/ML projects, guided team members, executed cross team deliveries and managed the stakeholders expectations effectively. Successfully applied Agile/Scrum processes to Data science development delivering AI/ML product features.
4. As Lead model developer and Hands-on data scientist, tackled various machine learning problems including classification, regression, and ranking/recommendation and has owned the end-to-end life cycle of ML projects.
5. As Senior professional, and Technical leader, participated in project planning, mentored junior colleagues, conducted interviews/ campus hires. Also demonstrated thought leadership via publications, pending-patents, webinars and tech talks.

## RECENT EXPERIENCE

### Wells Fargo : Data Science & Analytics- Tech Lead
### (May 2023 - Current )

As Data science Project Lead, I am responsible for end-to-end model development and delivery of models in Identity management workstream. I was awarded several times with "Spot award" for my contributions to Wells Fargo

- Access recommender: Led the development of GenAI-powered risk assessment system for access requests to inform managers. The project leverages the LLM's semantic matching and reasoning capabilities and makes a decision through multiple coordinated agents. We also showcased an agentic POC using langgraph.
- Password Reset Fraud Detection Model: Led the development and deployment of supervised classification model to detect fraudulent password reset attempts, with a projected ROI of $2.3 million.
- Overdraft Prediction Model: Successfully improved an overdraft prediction model, to enhance mobile app user experience. The output of the model gives early warnings to customers about their impending overdraft.

### Verizon : Data Science- Team Lead/Senior Consultant
### (Jan 2020 - Apr 2023)

- Led a team of 5 data scientists for delivering data science models in a single work stream for giving AI driven interventions for employee training. Co-ordinated the delivery across three teams to integrate the solution to the UI/UX and successfully rolled out the product. Realized success with A/B tests which yielded a lift of +12.76% on key metrics

**Languages:** Python, R, Shell-scripting, SQL,Scala, Prompt engineering
**Data processing frameworks:** Apache  Spark , Pandas, Numpy
**GenAI frameworks**: CrewAI , Langchain
**Machine learning tool-set:** Scikit-learn, Spark.ml, Keras, HyperOpt, Mlflow, SHAP, Lime , DoWhy, H2O,snorkel, nltk etc
**Models used:** Deep learning neural nets, Decision Trees, Linear regression , Logistic regression, Random forest, xg-boost etc
**Databases**: postgres, dynamodb, Presto/Hive, Bigquery
**Cloud platform:** AWS , GCP
**Data and ML platforms:** H2O, Domino, Databricks

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## RECOGNIGIONS/ACTIVITIES

- Recipient of "Anna" award for top marks (95%) in higher secondary
- All india rank 254 in GATE 2007
- Submitted a patch to linux kernel which was covered in lwn.net (linux weekly news)
- Recognized with many 'Spot award' and employee recognitions in Wells Fargo and Verizon
- Acted as Convenor of Machine learning group-Bangalore  in Expedia

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## PUBLIC PROFILES

Portfolio website:
https://srimugunthan.github.io

Medium Blog link:
https://medium.com/@srimugunthan

Github:
https://github.com/srimugunthan

- Led a team of 2 data scientists and delivered a model that proactively predicts customers who will call for billing related issues
- Led a team of 4 data scientists and delivered 3 models that predicts call propensity intents for customers support issues
- Developed a prototype for Weak supervised  model using snorkel  to automatically label textual data from call center  chat transcripts.

### Expedia: Data science and ML engineer
### (Apr 2018 - Sep 2019 )

- Developed a Ranking model using deep learning to score all properties/hotels in the company's inventory against  a set of taxonomy keywords. The model achieved performance with NDCG value of 0.7 and mean-absolute-error of 0.2.
- Enhanced a Predictive model to predict the Travel-from location for a customer. The model achieved accuracy of  82%. The  A/B test results with model  showed an estimated gross profit improvement of 1.5M\$
- Operationalising models like customer lifetime value, Purchase propensity
- As convenor of the Machine learning group, designed and conducted training programs on Data science.

### FULL WORK EXPERIENCE HISTORY

1. Data Science-Tech Lead / "Lead Quantitative Analytics Specialist" , **Wells Fargo** (May 2023- Current)
2. Data science Team Lead/ "Senior Data science Engineer and consultant", **Verizon** (Jan 2020- Apr 2023)
3. Data science and ML engineer/ "SDE-2", **Expedia**, (April 2018-Sep 2019)
4. Big data engineer/ "Senior software engineer" **Akamai Technologies (**March 2015- Mar 2018)
5. Embedded systems-Tech Lead/ "Technical Lead"  **Samsung  (**Oct 2012- Oct 2014)
6. "Research student" **Indian Institute of Science  (**Jul  2008- Oct 2012)
7. Embedded systems engineer/"Software engineer", **Elven Microcircuits(acquired by AFTEK)  (**Apr 2007 – Jun 2008)
8. Device drivers developer/ "Software engineer"  **Freescale semiconductors (acquired by NXP)  (**Jul 2005 – Nov 2006)

### SELECTED PUBLICATIONS/PATENTS

1. Srimugunthan, K.Gopinath, Giridhar Appaji Nag Yasa, **LFTL: a multi-threaded FTL for parallel IO flash cards**, CSI journal of computing.
2. Srimugunthan, K.Gopinath, **Distributed Wearlevelling of Flash memories**, arXiv:1302.5999.
3. Srimugunthan, M.N.S Bharadwaj, " **Space Efficient Recovery of Time Related Metadata Of Recorded Data from Failure Scenarios**" , Indian Patent Application 4939/CHE/2014
4. Srimugunthan, "**A Performance comparison of Noise aware loss functions"**, Under review

### SELECTED GENAI  PROJECTS
- **Chat-with-your-data app:**  This uses langchain's apis  so that we can ask data analysis questions on a given dataset   .
- **Data Analyst AI agent:**  Leveraged crewAI framework to develop an AI agent to autonomously generate descriptive statistics, generate questions and reports .Github.

### SELECTED WEBINARS/TALKS
- Webinars/Tech Talks : https://srimugunthan.github.io/talks.html