SENTHIL KUMAR

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- An ML Engineer capable of building NLP applications leveraging deep learning models
- An AWS Cloud Engineer specialized in developing & deploying event-driven Serverless architectures
- (Since mid'23) A GenAI Engineer immersed in the development of LLM api-powered and agentic apps
- Total Exp: 14 years; Data Science & NLP Exp: 10/14 years; Cloud Engineering: 4/14 years

WORK EXPERIENCE

Lead ML Engineer, Toyota Connected India   **Jul 2022 – Present**

- Build data pipelines and NLP applications in AWS cloud to aid Connected Car customers by following Agile Scrum methodology
- Published 4 articles in TCIN medium and presented a seminar on Serverless Python App in PyCon2023

Lead Data Scientist, Ford, Analytics Team   **May 2018 – Jun 2022**

- A hands-on **data science developer** who co-developed with NLP experts from the US team
- I contributed in the end-to-end ML application development
  - from data acquisition, cleaning, labeling and preprocessing,
  - to model development, deployment and maintenance

Assistant Manager, LatentView Analytics (LV)   **Apr 2014 – Apr 2018**

- Roles I played: **NLP Data Scientist**, **Project Delivery Manager**
- Responsible for project scoping and accountable for the delivery of Social Media Analytics projects of 8+ members

Lead Analyst, Beroe Inc   **Jul 2010 – Dec 2013**

- Produce Market Research reports on how to procure indirect spend categories

Career Progression & Performance Awards

Company	Position Change	Years since joining	Awards/Recognitions
Toyota	Senior ML Engineer to Lead ML Engineer	1.5 years	1. Employee of the Month (Sep'23) 2. Hackathon Team Winner (Mar'23) 3. Secured 2nd place in AWS India Mfg Teams Hackathon 2024
Ford	Senior Data Scientist to Lead Data Scientist	1.5 years	Asia-Pacific Recognition Award (May'19)
LatentView	Senior Analyst to Assistant Manager	2.5 years	Encore Award (Jul-Sep 2016 quarter)
Beroe	Promoted twice	3.5 years	Knowledge Contributor Awards (twice in 2013)

EDUCATION

- Bachelors in Engg - Electronics - 8.6 CGPA
  - Madras Institute of Technology, 2006 - 2010
- 12th Grade - 95% | 10th Grade - 92%
  - State Topper in Physical Science paper (50/50), 2006 TN Engineering Entrance Exam

TECHNICAL UPSKILLING

Online Courses

- DevOps on AWS Specialization(4 courses), Coursera-AWS, Oct'24
- Generative AI with LLMs, Coursera-Deeplearning.ai, Nov'23
- DeepLearning Specialization(5 courses), Coursera-Deeplearning.ai, Dec'18 - May'19
- ML Fundamentals for Structured Data (2 courses), Kaggle Learn, Jan-Feb'22
- Applied Text Mining (2 courses), Coursera-MichiganUniv, Jan'18
- GCP Big Data & ML Fundamentals, Coursera-Google, Apr'21
- SQL (GCP BigQuery) Fundamentals, Kaggle Learn, Feb'22

Skills

- **Languages**
  - Python, SQL(basics), Markdown, Bash/Shell Scripting
- **Python Libraries**
  - Pandas, SpaCy, Re (Regular Expressions), Transformers, Sklearn, PyTorch, OpenAI, LangChain
- **Tools**
  - Git,AWS CLI, Docker, Pipenv (& other Python env management tools), AWS Serverless, OpenAI, ChatGPT, Prompt Engineering

KEY PROJECTS

A Platform - X   **(name withheld)**   **- with a suite of GenAI Apps in AWS | 2024**

- Led and contributed as part of a team that built a suite of products in a common platform - X - to unlock actionable intelligence from any text data
  - xWorkFlow - A Workflow Automation Tool with a robust YAML-based prompt engineering system for LLM Chaining in workflows
  - xGPT - An Answer Engine for securely interacting with customer data
  - xAgentChat - A Multi Agent Chat Application armed with access to tools like Calendars and Dealer Systems

Serverless LLM-powered Classification Application | 2023

- Leveraged OpenAI paid models (such as GPT-4) to perform hierarchical text classification
- Utilised AWS Lambda functions to throttle the OpenAI API calls at scale

Contact Center Dashboard - A Speech2Text Dashboard Application in AWS | 2022-23

- Built a ML Pipeline comprising Open Source models converting Call Center audio transcripts to usable insights in dashboard.

BERT Fine-tuned Aspect-based Sentiment Analysis Pipeline | 2020-21   **More Details**

- Built a Sequence Classification ML Pipeline which converts customer comments into trackable Aspect and Sentiment pairs

Personally Identifiable Information (PII) Detection using Named Entity Recognition (NER) | 2020-21   **More Details**

- Annonymized PII in text data by building a NER system using **RoBerta Fine-tuned Transformer model**

NLP Semantic Similarity Engine | 2021-22   **More Details**

- Created a "digital thread" - a NLP-based semantic similarity matching engine based on automotive part descriptions - between two automotive domain specific data sources

Learn by Blogging | 25+ Articles | 2020 - Present | **Blog Link**

- Have been passionately learning and writing about coding, data science and ML since 2020 here