

# SENTHIL KUMAR

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- A ML Engineer specialized in building production-grade NLP and LLM-powered Gen AI applications
- An AWS Cloud Engineer with an expertise in Serverless application development and deployment
- 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
<b>Toyota</b>	Senior ML Engineer to Lead ML Engineer	1.5 years	1. Employee of the Month (Sep'23) 2. <u>Hackathon Team Winner (Mar'23)</u> 3. <u>Secured 2nd place in AWS India Mfg Teams Hackathon 2024</u>
<b>Ford</b>	Senior Data Scientist to Lead Data Scientist	1.5 years	Asia-Pacific Recognition Award (May'19)
<b>LatentView</b>	Senior Analyst to Assistant Manager	2.5 years	Encore Award (Jul-Sep 2016 quarter)
<b>Beroe</b>	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

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### 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
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### 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
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## KEY PROJECTS

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### 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
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### 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
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### 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.
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### 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
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### Personally Identifiable Information (PII) Detection using Named Entity Recognition (NER) | 2020-21

[More Details](#)

- Anonymized PII in text data by building a NER system using **RoBerta Fine-tuned Transformer model**
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### 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
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### Learn by Blogging | 25+ Articles | 2020 - Present |

[Blog Link](#)

- Have been passionately learning and writing about coding, data science and ML since 2020 [here](#)
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