

# PROFILE

**D R . S . A K I L A**

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**Linguistic Proficiency : English, Tamil**

## EDUCATION

<b>Ph.D</b>	<b>National Institute of Technology, Trichy</b>	<b>9.5</b>
<b>MCA (CGPA)</b>	<b>National Institute of Technology, Trichy</b>	<b>8.68 (Out of 10)</b>
B.Sc (IT)	PSG College of Technology, Coimbatore	8.47
Class XII (HSC)	Infant Jesus Matric Hr. Sec. School, Tirupur, Tamil Nadu	88.4%
Class X (SSLC)	Infant Jesus Matric Hr. Sec. School, Tirupur, Tamil Nadu	85.7%

## SOFTWARE SKILLSET

- Text-based LLMs : GPT 3.5 Turbo, GPT 4, Cohere, Phi2
- Speech Recognition Models : Whisper
- Frameworks : LangChain, LlamaIndex
- Transformer Libraries : Hugging Face
- Vector Databases : Weaviate
- App Hosting : Streamlit
- Logging : MLFlow
- Programming Languages : Python
- ML Frameworks : NumPy, Pandas, Scikit-learn, Open CV, PyTorch
- Computing Envs : IPython Notebook, Colab
- RDBMS : MS-SQL Server 2017, MySQL 5.0, Postgres SQL
- IDE : PyCharm, Visual Studio Code

## AREAS OF INTEREST

- Deep Learning and Large Language Models
- Machine Learning and Data Analytics
- Data Structures and Algorithms

## EXPERIENCE

- 1 year experience as a **Research Scientist in Censius.ai/ Attri.ai**
- 4 years experience as a **Data Analyst in Appangadi**
- 4 years experience as a **UX Designer in Appangadi**
- **Conducted a five days' workshop and a two days' workshop on Data Science Research @ NIT Trichy**
- **Conducted a Three Days Workshop on Data Science Research Sponsored by DST @ NIT Trichy**
- **Delivered invited lectures on Data Science Research and Big Data Analytics across India.**

## RESEARCH AND INDUSTRY PROJECTS

- Led the team in the development of a professional assistant solution.
  - a. **Notable Features:** RAG based Chatbot, Email Autoresponder (Adopts the tone of the user)
  - b. Fine-tuned GPT 3.5 Turbo, GPT 4, LangChain, LlamaIndex, Python, Django, Weaviate
- Worked on an agent based model for use by Sales and Marketing Teams
  - a. **Notable Features:** GPT Assistant based Chatbot, Email Generation for user-specific Outreach, Content Generation for Organization specific Deck Creation
  - b. Email and Content Generation adopts to the tone and keywords specific to the organization.
  - c. Created multiple agents to handle customer workflows.
  - d. Fine-tuned GPT 3.5 Turbo, GPT 4, GPT Assistants, Whisper
- Co-Architected a process flow that uses RAG and Content Similarity to identify matching clauses in Legal Documents
- Visveswaraya Scheme: Cost-Sensitive Credit Card Fraud Detection using Bagging Ensemble Models (PhD)
- Adaptive OpenCV based Bubble/MCQ Response Sheet Evaluation Software - eValueate Capable of Scanning and Correcting 200 sheets in 8 minutes with Item Analysis and Reporting - ExamSign, Trichy.
- Question/Item Similarity Detection for Smart Question Bank – ExamSign, Trichy
- Smart Digit and Tick Detection using Deep Learning Models to enable Automated Consolidation/Marking - ExamSign, Trichy

- Item Response Theory based Adaptive Testing for NEET/JEE Preparation - ExamSign, Trichy

## RESEARCH EXPERIENCE AND PUBLICATIONS

Google Scholar Page: <https://scholar.google.com/citations?user=Qn57J64AAAAJ&hl=en>

My Research Publications: <https://www.researchgate.net/profile/Akila-Somasundaram>

### Publications

1. Akila S and Srinivasulu Reddy U. Cost Sensitive Risk Induced Bayesian Inference Bagging (RIBIB) for Credit Card Fraud Detection, Journal of Computational Science, Elsevier, Vol.27, pp.247-254, 2018. **(SCIE, Impact Factor: 3.976)**
2. Akila S and Srinivasulu Reddy U. Parallel and Incremental Credit Card Fraud Detection Model to Handle Concept Drift and Data Imbalance, Neural Computing and Applications, 17th Springer, 2018. (Available Online, July 2018 (<https://doi.org/10.1007/s00521-018-3633-8>) **(SCIE, Impact Factor: 5.606)**
3. Akila S and Srinivasulu Reddy U. Credit Card Fraud Detection using Non-Overlapped Risk based Bagging Ensemble (NRBE), IEEE International Conference on Computational Intelligence and Computing Research, 2017, 2017.
4. Akila S and Srinivasulu Reddy U. Risk based bagged ensemble (RBE) for credit card fraud detection, In Inventive Computing and Informatics (ICICI), International Conference on, pp.670-674, 2017.
5. Akila S and Srinivasulu Reddy U. Modelling a stable classifier for handling large scale data with noise and imbalance, In Computational Intelligence in Data Science (ICCIDS), 2017 International Conference on, pp.1-6, 2017.
6. Akila S and Srinivasulu Reddy U. Data Imbalance: Effects and Solutions for Classification of Large and Highly Imbalanced Data, Proceedings of ICRECT'16, pp.28-34, 2016.
7. Akila S and Srinivasulu Reddy U. Big Data Analytics in Bioinformatics: A Technology Prospective, Proceedings of National Conference on Big Data and Cloud Computing (NCBDC'15), pp.120-124, 2015.