

DR. MATAN P

Chennai, India

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Professional Summary

Machine Learning and NLP specialist with expertise in Generative AI, transformer-based language models, and multilingual text processing. Experienced in building scalable NLP solutions, fine-tuning large language models, and developing data-driven AI systems for real-world applications. Skilled in Python, PyTorch, and modern ML frameworks, with a strong ability to translate research innovations into practical, business-oriented solutions. Effective communicator who collaborates across teams to deliver impactful and interpretable AI outcomes.

Experience

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science & Technology <i>Assistant Professor</i>	Jul 2025 – Present <i>Chennai</i>
• Developed hands-on AI solutions using transformer-based models, enabling students to build practical NLP and Gen AI systems. • Guided student projects using real-world datasets, fostering problem-solving skills and industry readiness.	
College of Engineering Guindy, Anna University <i>Research Scholar & Assistant Lab Tutor</i>	Feb 2022 – Dec 2025 <i>Chennai</i>
• Developed transformer-based language models for text generation, multilingual translation, and expressive speech synthesis. • Designed NLP pipelines for large-scale text processing and evaluated models using ROUGE, BLEU, and semantic similarity metrics. • Collaborated with research teams and mentored UG/PG students in AI, NLP, and machine learning applications.	
SWAYAM MOOC - Database Management Systems <i>Teaching Assistant</i>	Nov 2023 – May 2025
• Supported online learners through academic mentoring, assessments, and technical clarification. • Assisted in content delivery and evaluation for large-scale online education platforms.	

Technical Skills

Programming: Python, C, C++, SQL

Machine Learning & AI: PyTorch, TensorFlow, scikit-learn, Deep Learning, Model Optimization

NLP & Generative AI: Transformers, Large Language Models (LLMs), Text Generation, Multilingual NLP, Prompt Engineering

Data Analysis: Pandas, NumPy, Exploratory Data Analysis (EDA), Feature Engineering, Model Evaluation

Tools & Platforms: Hugging Face, Git, Jupyter Notebook, Google Colab

Concepts: Natural Language Processing, Generative AI, Machine Learning Pipelines

Education

College of Engineering Guindy, Anna University <i>Ph.D. in Computer Science and Engineering</i>	Feb 2022 – Dec 2025 <i>Chennai, India</i>
• Thesis: <i>An Integrated Approach to Generate Creative Children's Stories using Large Language Models and Multilingual Adaptation</i>	
College of Engineering Guindy, Anna University <i>M.E. in Computer Science and Engineering</i>	Sep 2019 – May 2021 <i>Chennai, India</i>
Panimalar Institute of Technology, Anna University <i>B.E. in Computer Science and Engineering</i>	Aug 2015 – May 2019 <i>Chennai, India</i>

Research Publications and Patent

- A Neuro-Symbolic AI Approach for Translating Children's Stories from English to Tamil with Emotional Paraphrasing, *Scientific Reports, Nature Portfolio* (2025), .
- Contextual Fine-Tuning of Language Models with Classifier-Driven Content Moderation for Text Generation, *Entropy* (2024), .
- Optimized Story Generation using DeepSeek LLM with Supervised Fine-Tuning, *IEEE Conference* (2025), .
- Smart Footwear with Multi-Sensor and Real-Time Data Synchronization for Diabetic Health Monitoring, *Indian Patent (Published)*, .

Milestones and Achievements

- Received Best Paper Award at IEEE CINS 2025 for contributions in artificial intelligence and deep learning research.
- Awarded the prestigious **Anna Centenary Research Fellowship** for doctoral research excellence at Anna University.
- Delivered an invited talk on **Artificial Intelligence in Manufacturing and Maintenance** at Ashok Leyland, demonstrating applied AI impact in industry.
- Completed NPTEL certifications including **Responsible and Safe AI Systems**, **Python for Data Science**, and **Data Science for Engineers**.