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   Jul 2025 – Present
Assistant Professor   *Chennai*
- 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   Feb 2022 – Dec 2025
Research Scholar & Assistant Lab Tutor   *Chennai*
- 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   Nov 2023 – May 2025
Teaching Assistant
- 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   Feb 2022 – Dec 2025
Ph.D. in Computer Science and Engineering   *Chennai, India*
- Thesis: *An Integrated Approach to Generate Creative Children's Stories using Large Language Models and Multilingual Adaptation*

College of Engineering Guindy, Anna University   Sep 2019 – May 2021
M.E. in Computer Science and Engineering   *Chennai, India*

Panimalar Institute of Technology, Anna University   Aug 2015 – May 2019
B.E. in Computer Science and Engineering   *Chennai, India*

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**.