JAYAPANDI B

- AI&ML ENGINEERING

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Career Objective

- ❖ Machine Learning Engineer with strong foundations in Python, SQL, and data analysis
- ❖ Experienced in end-to-end ML pipeline development, including data preprocessing, feature engineering, model training, evaluation, and deployment.
- ❖ Skilled in developing scalable ML and Deep Learning models.
- ❖ Proficient in applying machine learning techniques and deep learning architectures using modern frameworks and libraries.

Technical Skill

- **Programming Languages:** Python Programming, SQL Query
- **ML/DL Libraries:** Scikit-learn, TensorFlow, PyTorch
- **Data Handling & Visualization:** Pandas, NumPy, Matplotlib, Seaborn
- **Databases:** MySQL Query,MongoDB Compass
- **Tools & Platforms:** Git, GitHub, Docker, Jupyter Notebook , Streamlit , FastAPI

Mini Project

Vehicle Damage Report | Multi-Task U-Net (Encoder–Decoder CNN) | (Aug 19, 2025)

Tools: Python , Tensorflow, albumentations, matplotlib, Streamlite, google-colab

- **Multi-Task U-Net CNN** built for **car part segmentation** and **damage detection**
- Trained end-to-end using annotated **JSON** datasets and Image Labels "**Panoptic segmentation**"
- It automatically parses **annotations**, generates masks, builds, trains, and evaluates the **dual-output model**

MindPal Wellness Companion | (Recurrent Neural Network) | (Sept 21, 2025)

Tools: Python, Pandas, Tensorflow, Seaborn ,Tokenizer, Bidirectional LSTM, Streamlite, google-colab

- An AI-powered emotional **wellness assistant** that **listens**, **understands**, and **responds** with empathy.
- Built with **Bi-LSTM** intent detection, **sentiment modeling**, and personalized **wellness response** generation**.**
- Built using **deep learning** and **NLP** to detect mood, **guide mindfulness**, and promote **daily balance**

Text-to-Image Generation using GANs | (Generative Adversarial Network + RNN Encoder) | (Oct 10 , 2025)

Tools: Python, PyTorch, Pandas, Tokenizer, CNN Encoder, LSTM Text Encoder, GAN Generator–Discriminator, Google-Colab, Matplotlib, Streamlit

- Built a text-to-image pipeline using a custom Text Encoder + GAN architecture.
- Designed an LSTM caption encoder to generate dense text embeddings.
- Trained a GAN that generates images from captions and validates alignment through a discriminator.

Education

Bachelor of Technology in Artificial Intelligence & Data Science (**Jun** 2021 - **March** 2025)
Kathir College of Engineering, Anna University — CGPA: 7.4 Point

Higher Secondary Education (12th Grade) (**Jun** 2019 - **March** 2021)
Government Higher Secondary School, Theni — SCORE: 83.8%

Certificate

Python for Data Science — IBM via Coursera (Aug 2023) | **SQL Fundamentals** — W3Schools (Free Certificate, 2024)
Machine Learning Essentials — Microsoft Learn (Jun 2024) | **Data Analytics with Pandas** — Kaggle (Jun 2024)
Deep Learning Specialization — Coursera (Oct 2023) | **AI Data Annotation Specialist** — Simplilearn (Free Certificate, 2024)