Nilakshan Raveendran

AI & Machine Learning Intern — Undergraduate in Computer Science
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Professional Summary

Aspiring **AI & Machine Learning Intern** with strong foundations in **deep learning, NLP, neural networks, model training, data preprocessing, and evaluation**. Experienced in implementing **Transformer-based models**, building end-to-end **ML pipelines**, and conducting **experiment-driven development**. Skilled in Python, TensorFlow, PyTorch, Scikit-learn, and modern AI workflows. Passionate about LLMs, generative AI, and developing practical ML solutions. Seeking an opportunity to contribute to AI research, model development, and applied machine learning projects.

Core Competencies

Machine Learning, **Deep Learning**, **Neural Networks (ANN, CNN, RNN)**, **Transformers**, **LLMs**, **NLP**, Model Training, Model Evaluation, Data Preprocessing, Feature Engineering, Hyperparameter Tuning, Cross-validation, Attention Mechanisms, Sequence Modeling, Tokenization, Embeddings, Loss Functions, Optimizers (Adam, SGD), ML Pipelines, Experimentation, Model Benchmarking, Python Programming, Data Cleaning, Predictive Modeling

Experience

UI/UX Designer, Win Consult (Norway) 1

- Designed user flows and responsive interfaces for the **A-Z Super App**, ensuring seamless experience across iOS & Android.
- Collaborated with developers to enhance usability, accessibility, and user engagement through data-driven design.

App Tester, Win Consult (A-Z App) 1

- Performed **manual & automated testing**, identifying defects, verifying app stability, and improving QA processes.
- Conducted regression, integration, and performance testing across mobile platforms.

Front-End Developer, Softcox 1

- Built responsive dashboards and mobile UI using **React, React Native, Tailwind CSS**.
- Converted Figma designs into scalable production-level components.

Technical Skills

Programming: Python, Java, JavaScript, SQL
ML/DL Frameworks: TensorFlow, PyTorch, Keras, Scikit-learn, XGBoost
AI & NLP: Transformers, LLMs, BERT, GPT, RNNs, CNNs, Attention Models
Tools: Pandas, NumPy, Matplotlib, Seaborn, OpenCV, Jupyter, Colab
Databases: PostgreSQL, MySQL, MongoDB
Dev Tools: Git, GitHub, Docker, Linux, VS Code, Postman, Figma

Education

Uva Wellassa University 1
B.Sc. (Hons) in Computer Science & Technology

- GPA: 3.50 (First 4 Semesters)

Certifications

- **Generative AI & ChatGPT (GeeksforGeeks)** – GPT-2, text generation, summarization
- **AI/ML Engineer – Stage 1 & 2 (GeeksforGeeks)** – ML algorithms, supervised learning, TensorFlow, PyTorch

- **Complete TensorFlow Course (GeeksforGeeks)**
- **Advanced Programming in Python** – University of Moratuwa
- **Python Programming** – University of Moratuwa

Projects

GPT-2 Architecture (from Scratch) 1

- Implemented core components of the **GPT-2 Transformer**, including multi-head attention, masked self-attention, positional encoding, and layer normalization.
- Designed a full **training pipeline** with tokenization, batching, loss calculation, optimizer configuration (Adam), and gradient updates.
- Conducted **model experimentation**, tuning hyperparameters and analyzing training curves for stability.
- Trained on a custom dataset for **text generation, sequence modeling, and language understanding**.

Text Summarization using T5 Transformer 1

- Fine-tuned the **T5-small Transformer** using HuggingFace Trainer for abstractive text summarization.
- Performed complete ML pipeline tasks: dataset preprocessing, tokenization, padding, truncation, and attention mask generation.
- Used **beam search decoding**, evaluated summaries with **ROUGE-1, ROUGE-2, ROUGE-L**.
- Performed multiple training experiments to optimize **learning rate, batch size, and sequence lengths**.

Mobile Price Prediction (ANN) 1

- Developed an **Artificial Neural Network (ANN)** classifier using TensorFlow/Keras for mobile price prediction.
- Performed end-to-end **data preprocessing**, including normalization, outlier handling, feature scaling, and dataset splitting.
- Applied **hyperparameter tuning**, cross-validation, and performance evaluation using accuracy, precision, recall, and confusion matrix.
- Implemented training pipeline with callbacks, early stopping, and learning rate scheduling.

SMS Spam Detection (NLP) 1

- Built NLP-based classification system using **TF-IDF feature extraction**, logistic regression, Naive Bayes, and SVM.
- Preprocessed text using tokenization, stopword removal, lemmatization, and vectorization.
- Evaluated model using **precision, recall, F1-score** and optimized classification thresholds.

Jarvis – AI Voice Assistant 1

- Developed a real-time **AI Voice Assistant** integrating speech-to-text, LLM reasoning, and text-to-speech synthesis.
- Implemented pipeline integrating **Gemini 2.0**, conversational AI, message routing, and JSON-based agent instructions.
- Built audio preprocessing features including noise reduction, streaming audio buffers, and voice activity detection.

Referees

Mr. H.P.D.P. Pathirana
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