Minh Trinh

Data Scienctist Intern

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EXPERIENCE

Python coding Tutor, Freelance Mar 2023 – Mar 2024

- Guide students of varying skill levels through core Python programming concepts, including data structures, functions, and object-oriented programming, tailoring instruction to individual learning styles.
- Design and deliver customized lesson plans, hands-on programming exercises, and data science and data analytics projects to help students develop problem-solving skills and reinforce fundamental programming knowledge.
- Provide real-world examples and project-based learning, covering topics such as **data analysis, web scraping, and machine learning fundamentals**, to ensure a comprehensive understanding of Python applications.

PROJECTS

Animal Species Classification Using Convolutional Neural Networks(CNN) May - Jul 2023
Personal Project
github.com/trinhminhds/90-Different-Animals-Image-Classification

- Curated and labeled a diverse dataset of over 10,000 animal images from **Kaggle**, ensuring coverage across various species for balanced training.
- Pre-processed images through **resizing, normalization** and **data augmentation**(rotation, flipping, and zoom adjustments), enhancing the model's ability to generalize across diverse lighting conditions and backgrounds.
- Employed **TensorFlow** and **Keras** to design and optimize a CNN architecture with multiple convolutional and pooling layers, identifying key features such as fur texture, body shape, and coloration.
- Tuned model performance using transfer learning with a pre-trained **ResNet** and **EfficientNetB3** model, achieving faster convergence and higher accuracy.
- Deployed the model on a **Flask-based** web application, allowing real-time image uploads for species identification, which can be useful in educational and wildlife conservation contexts.

Handwritten Digit Recognition System Using Support Vector Machine(SVM) Jan - Apr 2024
Scientific Research, Faculty Information Technology, Gia Dinh University
github.com/trinhminhds/Handwritten-Digit-Recognition

- Developed a handwritten digit recognition system using the **MNIST dataset** (60,000 training and 10,000 testing images).
- Implemented a Support Vector Machine (SVM) classifier with a **one-vs-all** strategy for digit classification.
- Built a web interface that allows users to **draw or upload digits** and perform basic arithmetic operations **(addition, subtraction, multiplication, division)** on recognized digits.
- Achieved high recognition accuracy with performance **evaluation** using metrics such as accuracy, precision, recall, and F1 score.

AI-Generated Text Detection Using DeBERTaV3 and TensorFlow May - Aug 2024
Personal Project
github.com/trinhminhds/LLM-Detect-AI-Generated-Text

- Leveraged pre-existing datasets from **Kaggle** to train a deep neural network model in TensorFlow.
- Built a text classification pipeline to detect AI-generated text using **DeBERTaV3** with **TensorFlow** and **Keras NLP**.
- Configured model hyperparameters and used StratifiedKFold for robust cross-validation.
- Implemented data preprocessing and tokenization using **DeBERTaV3Preprocessor**.
- Trained a custom classification model with a sigmoid activation function for **binary classification (real vs. fake text)**, achieving high accuracy.
- Leveraged learning rate scheduling and W&B for experiment tracking.

EDUCATION

Bachelor of Information Technology, Big Data, Gia Dinh University — Oct 2022 – May 2025

- GPA: 3.2/4.0

SKILLS

Programming: Python, R, SQL, C/C++, Java.

Libraries & Tools: Pandas, Numpy, Matplotlib, Seaborn, Plotly, Scipy, Tkinter, Sckitlearn, TensorFlow, Keras, PyTorch, Flask, Beautiful soup, PowerBI, Tableau, GIT, Github, Linux.

Data Wrangling: Data Generation, Data Extraction, Data Cleaning, Exploratory Data Analysis, Feature Engineering, Feature Selection, Data Visualization.

Machine Learning Skills: Data Modeling, Clustering, Classification, Regression, Quantitative Analysis, Predictive Modeling, Statistical Modeling, Model Validation, Model Deployment, CNNs, RNNs, LSTM, BERT, Transformers.

Language: English basic.

COMPETITIONS

- Participated in the 2023 Scientific Research Competition organized by the IT faculty at Gia Dinh University, with the project titled **"Predicting Student Grades Using Machine Learning"**.
  - Processed historical student grade data to identify academic performance trends through data cleaning and visualization.
  - Developed predictive models to forecast graduation scores, supporting academic planning and student success strategies.
  - Recognized with a certificate for outstanding research project completion.

CERTIFICATIONS

- Coursera – IBM Data Science Specialization.
- Coursera – Linear Algebra for Machine Learning and Data Science.
- Coursera – Calculus for Machine Learning and Data Science.