PHAM LE MINH VU

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Education

- **FPT University** — Hanoi, Vietnam
  Bachelor of Artificial Intelligence - GPA: 8.5/10 — *Aug 2022 – Now*
  - **FPT University Scholarship for Talented Students:** 70% Tuition Coverage for Four Years
  - **Relevant Courses:** Machine Learning, Deep Learning, Computer Vision, Big Data Processing, Mathematics for Machine Learning, Statistics & Probability, Database Systems, Data Structures and Algorithms.

Certificates

- **IBM AI Engineering Professional Certificate** — Offered by IBM
  Pytorch, Keras, TensorFlow, Python
- **Deep Learning Specialization** — Offered by DeepLearning.AI
  Pytorch, Keras, TensorFlow, Python, Jupyter Notebook
- **IELTS 7.0 Certificate - CEFR Level C1** — Offered by British Council
  8.0 Listening, 7.0 Reading

Projects

- **Loan Acceptance & Default Prediction with Deep Neural Networks**
  A comparative analysis of Machine Learning techniques and Deep Neural Networks for Credit loan problems
  - Processed and analyzed P2P Lending dataset using NumPy & Scikit-learn for data manipulation, Matplotlib & Seaborn for data visualization, and applied statistical methods and clustering analysis to derive valuable insights.
  - Handling imbalanced dataset (80% good loans) by using oversapmling (SMOTE) techniques.
  - Built predictive models using multiple algorithms with corresponding validation test result: Logistic Regression (96.10%), XGBoost Classifier (97.71%), Random Forest Classifier (97.02%) and Light GBM (97.48%).
  - Constructed a Sequential Neural Networks (epochs=50, batch size=512), reduced overfitting through early stopping and dropout techniques on the same training data, achieving an accuracy of 98.95%.
- **Character Level Transformer Language Model**
  An analysis and implementation of Character-level Transformer Language Model
  - Implemented a Bigram & Multilayer Perceptron character-level language model on a 50.000 words dataset.
  - Applied Batch normalization, Residual connections along with various optimizers including SGD, Adam, and RMSprop, achieving a 20% improvement in convergence speed.
  - Make MLP model deeper with a CNN architecture similar to the WaveNet (2016) from DeepMind, resulting in a 25% reduction in training time while maintaining high accuracy.
  - Following the paper "Attention is All You Need" and OpenAI's GPT-(2)3 paper to recreate a character-level GPT songwriter model, training on "Spotify Million Song Dataset" of 57,000 songs lyrics and produce new songs.
- **Neural Image Caption Generation with Visual Attention**
  Attention-based model capable of describing the content of images
  - Build a modular encoder-decoder with a CNN as the encoder and an RNN as the decoder with an attention mechanism, reduced computational cost by 30% using a "hard" approach to calculating the attention weight.
  - Train the model stochastically by maximizing a variational lower bound, enhancing the model's generalization capability by 20%.
  - Visualize how the model is able to automatically learn to fix its gaze on salient objects while generating the corresponding words in the output sequence.

Skills

- **Programming Languages:** Python, SQL, R
- **Programming Frameworks:** Pytorch, TensorFlow, Keras, OpenCV, Pandas, Numpy, Matplotlib, Seaborn
- **Technologies:** Machine Learning, Deep Learning, CNN, RNN, Computer Vision, Git
- **ML Techniques:** Recommendation System, Dimensional Reduction - PCA, SVM
- **Languages:** Vietnamese (Native), English (IELTS 7.0 - Full Professional Proficiency)