Viet Quoc Nguyen

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SUMMARY

My research interest lies in vision-language models and self-supervised learning techniques, especially contrastive learning. I have experience in machine learning techniques and strong communication skills with the ability to explain complex technical concepts to non-technical.

EDUCATION

- **University of Economics Ho Chi Minh City (UEH)**   Ho Chi Minh City, Vietnam

  Bachelor of Data Science; GPA: *3.70/4.0*   *Sep 2021 - March 2025* (expected)

  Relevant courses: Data Structures and Algorithms, Mathematical Statistics, Artificial Intelligence, Natural Language Processing, Data Analysis Programming, Machine Learning (4.0/4.0 in all of the above)

RESEARCH EXPERIENCE

- **Intelligent Data Analytics Lab**, **Research Assistant**   *April, 2023 - present*

  I work on various projects including implementing BiLSTM for stock price prediction, improving DEC for intent mining, and analyzing attention-free language model effectiveness under the supervision of Dr. Dang N. H. Thanh.

HONORS AND AWARDS

- **UEH Young Researcher 2023 Award**   *Feb, 2023*
  For students with top 15% best research projects.

- **UEH Admission Scholarship**   *Sep, 2021*
  For students achieving the highest score in the National University Entrance exam.

ACADEMIC PROJECTS

- **Towards the Effectiveness of Attention-free Language Models for Sentiment Analysis**
  Implement attention-free language models (TextCNN, gMLP, Hyena) and compare the results to RoBERTa model. Our main finding is that the attention-free models achieve comparable results with significantly fewer parameters compared to RoBERTa.

- **Shopee Review Sentiment Analysis** (GitHub repository)
  Do sentiment analysis for reviews about Shopee using models including Naive Bayes, Maximum Entropy, XGBoost and RoBERTa, achieving 96% accuracy. Deploy the RoBERTa model on HuggingFace and publish a website for users.

- **Customer Intent Mining from Service Inquiries with Improved DEC**
  Develop a new unsupervised intent discovery system for banking corpus using Deep Embedded Clustering (DEC) with Jensen-Shannon divergence and Sophia optimization, achieving SOTA NMI Score.

- **On Stock Price Prediction: A Deep Learning Approach using Bidirectional Long-Short Term Memory (BiLSTM)** (GitHub repository)
  Predict Apple's stock prices from a five years' time dataset using BiLSTM model, achieving 97% accuracy. Published as a Conference paper in ICICCT2023.

Skills Summary

- **Languages**: Python, SQL, LaTeX
- **Libraries**: NumPy, Pandas, Seaborn, Plotly, TensorFlow, PyTorch, ...
- **English**: IELTS Academic 8.0   (*Listening: 9.0, Reading: 8.5, Writing: 7.0, Speaking: 7.0*)

Certifications

- **Machine Learning Specialization** [(GitHub repository)](#)   Coursera, *Feb, 2022*
  The GitHub repository achieves more than 200 stars and 100 forks.

- **Deep Learning Specialization**   Coursera, *Sep, 2021*

Publications

- **Nguyen Q. Viet**, Nguyen N. Quang, Nguyen King, Dinh T. Huu, Nguyen D. Toan, Dang N.H. Thanh. An Exploratory Comparison of LSTM and BiLSTM in Stock Price Prediction. In *7th International Conference on Inventive Communication and Computational Technologies (ICICCT - 2023).* [Link] [Code]

- Nguyen Q.K. Ha, Nguyen T.T. Huyen , Mai T.M. Uyen, **Nguyen Q. Viet**, Nguyen N. Quang, Dang N.H. Thanh. Customer Intent Mining from Service Inquiries with Improved Deep Embedded Clustering. *Under review at Journal of Uncertain Systems.*

- **Nguyen Q. Viet**, Nguyen N. Quang, Nguyen King, Dang N.H. Thanh. Performance Insights of Attention-free Language Models in Sentiment Analysis: A Case Study for E-commerce Platforms in Vietnam. In *8th International Conference on Inventive Communication and Computational Technologies (ICICCT - 2024).*

Academic activities

- **AI Day 2023**   Hosted by VinAI

  Participate in poster session, exploring topics including LLMs, Direct Preference Optimization with prestigious guests.   *Dec, 2023*

- **Summer School Data Science 2023**   Co-hosted by HCMUS and VIASM

  Exploring Generative AI techniques and recent advances.   *August, 2023*

- **Summer school on Bayesian Statistics and Computation**   Co-hosted by UEH and VIASM

  Exploring advanced topics in Bayesian statistics with top-notch professors.   *July, 2023*

- **Summer School on Large Language Model (LLM) and AI**   Hosted by HCMUS

  Topics include: Transformers, VQA, LLM for Visual Question Answering, ...   *July, 2023*

Reference

- **Dr. Dang N. H. Thanh**

  Assistant Professor (Lecturer), University of Economics Ho-Chi-Minh City (UEH), College of Technology and Design (UEH CTD), Department of Information Technology.

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