Tran Anh Thuan

@ thuantran@pukyong.ac.kr | LinkedIn | GitHub | Portfolio | Busan, South Korea

Key Skills

Programming: Python. **Framework:** Tensorflow, Pytorch. **Operating System:** Ubuntu.

Point Cloud: Point-based Transformer for 3D weakly-supervised segmentation and 4D panoptic segmentation.

Time-series Forecasting: Forecasting stock value using Machine learning (Prophet) and Deep Learning (DeepAR) with Backtest Strategy (Backtrader).

Natural Language Processing: Sentimental classification with Machine Learning (SVM) and Deep Learning (RNN, LSTM, BiLSTM, BERT).

2D Vision: Machine Vision (OpenCV4), Face Recognition (MTCNN + Mxnet).

Languages: Vietnamese (Native), English (Professional).

Education

Pukyong National University Busan, South Korea

M.Eng. in Artificial Intelligence Convergence; ***GPA: 4.4/4.5*** *Mar 2022 – Feb 2024 (Expected)*

- **Relevant coursework:** Neural Network, Statistical Learning Model, Optimization for AI, Artificial Intelligence Programming, Advanced Artificial Intelligence.

University of Economics and Law, Vietnam National University Ho Chi Minh City, Vietnam

B.Ec. in E-commerce, Faculty of Information Systems; ***GPA: 7.8/10*** *Sep 2017 – July 2021*

- **Relevant coursework:** Data Structure and Algorithm, Probability Theory, Information System Analysis and Design, Web Data Analysis, E-Commerce Security, E-Commerce Strategies, E-Payment.

Research Experience

Multimedia Signal Processing Lab Busan, South Korea

Graduate Research Assistant *Mar 2022 – Present*

- Working on 4D point cloud panoptic segmentation. The architecture is build upon point-based methods and previous Transformer attention mechanisms. The proposed network can perform panoptic segmentation in point cloud sequences.
- Proposing point-based Transformer architecture in weakly-supervised 3D point cloud segmentation. The network outperform other fully-supervised methods using only 0.1% point annotations.

GB AI Lab Ho Chi Minh City, Vietnam

Undergraduate Research Assistant *Jan 2018 – Oct 2021*

- Building complete solutions for smart classroom applied AI specialized in computer vision including face recognition and emotion detection.
- Implement machine learning and deep learning model for face detection. Transfer learning by using deep learning models for emotion classification.
- Building clustering algorithm that suggest location for school planning and visualizing results on map.
- Proposing function that covers the operating cost and individual cost for changing school location and algorithm to suggest students change current school with appropriate capacity.

Selected Publications

[1] Anh-Thuan Tran, Hoanh-Su Le, Suk-Hwan Lee, and Ki-Ryong Kwon. PointCT: Point central transformer network for weakly-supervised point cloud semantic segmentation. In *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024. Accepted.

[2] Anh-Thuan Tran, Hoanh-Su Le, Suk-Hwan Lee, and Ki-Ryong Kwon. Local graph point attention network in point cloud segmentation. *IEEE Access*, 11:33296–33312, 2023.

[3] Anh-Thuan Tran, Hoanh-Su Le, Oh-Joon Kwon, Suk-Hwan Lee, and Ki-Ryong Kwon. General local graph attention in large-scale point cloud segmentation. In *2023 IEEE International Conference on Consumer Electronics (ICCE)*, pages 1–4. IEEE, 2023.

Work Experience

Tuan Loc Commodities Ho Chi Minh City, Vietnam

Data Research Analyst *Sep 2021 – July 2022*

- Exporting reports monthly in docx and pptx format automatically using python with data visualization and corresponding text description directly from SQL Server.
  Responsibilities: Data cleaning and processing, extract charts and corresponding insights to predefined format automatically (MoM, YoY)
- Building forecasting model and backtest strategy to forecast future price in the coffee market combined with the actual stock
  Responsibilities: Manage and update master data with predefined features, Building appropriate the backtest strategy and compare with current strategies (Momentum, Mean Reverse, Pair Trading,..)

Technical Projects

Point cloud segmentation

- Building point-based Transformer network for segmentation tasks using limited point annotations in large-scale indoor and outdoor point clouds.
- Proposing Transformer architecture for panoptic segmentation in point cloud sequences.

Algorithmic trading

- Applying machine learning model in forecasting (Prophet) and building corresponding backtesting strategies on Backtrader platform.
- Product reviews: Building the semi-supervised sentimental model to classify online reviews on an e-commerce market.

AI-based Smart Classroom

- Applying current machine learning models in smart classrooms for attendance, exam verification, and teaching evaluation tasks.
- Analysing model outputs and visualizing results into corresponding charts.

Opinion mining with Vietnamese text

- News: Gather news, comments in the Smartphone industry in Vietnamese online newspapers and using machine learning to classify them.
- Product reviews: Building the semi-supervised sentimental model to classify online reviews on an e-commerce market.

Certificates

Google Data Analytics Certificate *Mar 2022*

Data Analytics, SQL, Data Visualization, R, Problem Solving, Data Aggregation

Data Science Professional Certificate *Mar 2021*

AI, Data Analysis, Data Science, IBM Cloud, Clustering

Applied Data Science Specialization *Apr 2020*

Data Visualization, Machine Learning, Text Mining, Social Network Analysis

Deep Learning Specialization *Mar 2020*

Convolutional Neural Networks, Recurrent Neural Networks, LSTMs, Transformers, Tensorflow

IELTS: 7.0 *July 2023 - July 2025*