Duy Thanh Vu

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Education

University of Engineering and Technology (UET) Hanoi, Vietnam
Bachelor in Faculty of Electronics and Telecommunications (FET) *Aug. 2016 – Aug 2020*

- GPA: 3.82/4.00, Ranking: 1^{st}.
- Advisors: Prof. Nguyen Linh Trung, Dr. Nguyen Viet Dung.

Avanced Institute of Engineering and Technology (AVITECH) UET,VNU
Research Assistant. *Aug. 2020 – Present*
Focused on tensor method, data fusion, and their applications to Alzheimer disease and Epilepsy

University of Engineering and Technology and Paris-Saclay University Hanoi, Vietnam
Joint Master's Degree Program in Communication and Data Engineering *Nov. 2022 – Nov. 2023*

Research Experience

Computer Vision Internship 2019
Vingroup Big Data Institute

- Understood some popular neural network architectures work
- Used researched new models for human detection/tracking and face recognition tasks

Research Assistant 2018 – Present
Advanced Institute of Engineering and Technology (AVITECH) *UET,VNU*

Project 1: Subspace tracking methods 2019 - 2020

- Implemented several traditional subspace methods,compared their performance in the direction of arrival (DOA) application
- Focused on developing a new fast and robust method and demonstrated the performance in simulations and experiments

Project 2: EEG source localization for Epilepsy 2020

- Implemented several traditional methods to solve the inverse problem in EEG source analysis, specifically for spike localization
- Performed modeling of depth-EEG signals to verify the results obtained from the EEG inverse method

Project 3: Fusion of PET and MRI images to enhance diagnosis of Alzheimer disease 2020

- Performed preprocessing on PET and MRI images, utilizing different pipelines for each type of feature extraction (i.e. issue volume, cortical thickness)
- Implemented various feature extraction methods focusing on tensor methods, and integrated multi-modal data for improved diagnosis

Project 4: Residual PLS Learning: Cortical Thickness Predicts Outcomes in AD 2022

- Performed data processing and analysis
- Developed data visualizations to facilitate interpretation of methods, results and identified important regions for predicting Alzheimer's disease outcomes using cortical thickness data
- Created web-based visualizations to enable interactive exploration of the results, allowing for further analysis and exploration by researchers and clinicians.

Scholarship

3F Community Support Fund Scholarship (Vietnam). 2017

Lawrence S.Ting Memorial Fund Scholarship. 2018

Misubishi Scholarship. 2019

Lawrence S.Ting Memorial Fund Scholarship. 2020

Honda Award. 2020

Scholarship for graduated student 2021 supported by Vingroup Innovation Foudation (VINIF). 2021

Teaching

ELT3144: Digital Signal Processing

Teaching assistant, University of Engineering and Technology

ELT2029: Engineering Mathematics

Teaching assistant, University of Engineering and Technology

Publications

1. Le Quoc Anh, Vu Duy Thanh, Nguyen Huu Hoang Son, Doan Thi Kim Phuong, Luong Thi Lan Anh, Do Thi Ram, Nguyen Thanh Binh Minh, Tran Hoang Tung, Nguyen Hong Thinh, Le Vu Ha, Luu Manh Ha. "Efficient Type and Polarity Classification of Chromosome Images using CNNs: a Primary Evaluation on Multiple Datasets." *In 2022 IEEE Ninth International Conference on Communications and Electronics (ICCE)*, pp. 400-405. IEEE, 2022.

2. Le Quoc Anh, Luu Manh Ha, Theo van Walsum, Adriaan Moelker, Dao Viet Hang, Pham Cam Phuong, and Vu Duy Thanh."Needle Localization and Segmentation for Radiofrequency Ablation of Liver Tumors under CT Image Guidance." *In 2022 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, pp. 2015-2021. IEEE, 2022.

Technical Skills

- Programming Languages: Matlab, Python, C/C++.
- Proficient in deep learning frameworks including PyTorch, Keras, and TensorFlow, as well as machine learning libraries such as scikit-learn.
- Experienced in data analysis and visualization tools (i.e. pandas, seaborn, altair, plotly, origin, ...).
- Basic knowledge of web deployment using tools like Streamlit, FastAPI, Flask.

References

Asst. Prof Oliver Y. Chén
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University of Bristol, UK
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Assoc. Prof Nguyen Linh-Trung
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