

# Viet Hoang Phan

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## EDUCATION

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### Hanoi University of Science and Technology

*B.Sc., Computer Science, Honor program*

Hanoi, Vietnam

Aug. 2018 - Aug. 2022

### Vinh High School for Gifted Students

*Mathematical talented class*

Vinh, Vietnam

Aug. 2015 - May 2018

## EXPERIENCE

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### VinAI Research

*Research resident*

Hanoi, Vietnam

Aug. 2021 - Present

Advisors: Dr Trung Le, Asst. Prof. Nhat Ho

- Main research topics: *Domain Adaptation, Multi-task learning.*
- Knowledge gain: *Optimal transport, Multi-objective Optimization*, advanced techniques in *Domain adaptation/generalization, semi-supervised learning, transformers...*

### Data Science Laboratory

*Undergraduate Research Student*

SoICT-HUST

Sep. 2019 - Present

Advisors: Assoc. Prof. Khoat Than, Assoc. Prof. Huong Le Thanh, Msc. Linh Ngo Van

- Main research topics: *Continual learning*. Knowledge gained: *Graphical Models, Variational Inference ...* and efficiently utilize the above advances to reduce catastrophic forgetting problem in continual learning.
- Developed a processing toolkit for Khmer language (> 10.000 downloads and installations), in support of Asian Language machine translation. Used in Facebook Research projects, NAACL Workshop ...

### Cinnamon AI Labs

*AI Research Engineer*

Hanoi, Vietnam

Jan. 2020 - Mar. 2021

- Worked on client productions and research topics, mainly focus on information extraction of domain-specific business documents with the limitation of provided training data.
- Developed an internal usage chat bot, integrated with Slack, in support of the Human Resource department.

## PROPOSALS

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- **Hoang Phan**, Ngoc Tran, Trung Le, Toan Tran, Nhat Ho, Dinh Phung. "Stochastic multiple target sampling gradient descent". Under review. 2022
- **Hoang Phan**, Trung Le, Trung Phung, Anh Bui, Nhat Ho, Dinh Phung. "Global-Local Regularization Via Distributional Robustness". Under review, 2022.
- **Hoang Phan**, Anh Phan, Son Nguyen, Linh Ngo Van, Khoat Than. "Reducing catastrophic forgetting in neural networks via Gaussian mixture approximation". In *Advances in Knowledge Discovery and Data Mining. PAKDD*. Lecture Notes in Computer Science. Springer, 2022.
- **Hoang Viet Phan**, Long Tien Nguyen, Long Duc Nguyen, and Khanh Doan. 2021. "Matching the statements: A simple and accurate model for key point analysis". In *Proceedings of the 8th Workshop on Argument Mining*. Association for Computational Linguistics.
- Tam Minh Nguyen, Quang Huu Pham, Linh Bao Doan, Hoang Viet Trinh, Viet Anh Nguyen and **Hoang Viet Phan**. "Contrastive Learning for Natural Language-Based Vehicle Retrieval". In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2021. p. 4245-4252.
- Quang Huu Pham, **Viet Hoang Phan**, Viet Hoang Trinh, Viet Anh Nguyen and Viet Hoai Nguyen. "S-NLP at ICDAR 2021: Multimodal Emotion Recognition on Comics scenes". Submitted to *International Conference on Document Analysis and Recognition Workshops*.

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|---|-------------|
| <b>National Olympiad for Students</b><br><i>Vietnam Mathematical Society (VMS) Olympiad for universities and high school students</i>                           | 2017 - 2018 |
| <ul style="list-style-type: none"> <li>Gold medal (2018), Silver medal (2017).</li> </ul>   |             |
| <b>Vietnam Mathematics Olympiad (VMO)</b><br><i>The annual national mathematics competition for high school students</i>  | 2017 - 2018 |
| <ul style="list-style-type: none"> <li>IMO team selection test contestant.</li> <li>Second prize (2018), Third prize (2017).</li> </ul>                         |             |
| <b>International Tournament of Towns (ITOT)</b><br><i>International mathematical Olympiad for school students</i>   | 2017        |
| <ul style="list-style-type: none"> <li>Bronze medal (2017).</li> </ul>  |             |
| <b>Vietnam Institute for Advanced Study in Mathematics (VIASM) Scholarship</b><br><i>Scholarship of the National Program for the Development of Mathematics</i> | 2016 - 2018 |
| <b>Vallet Scholarship</b><br><i>Prof. Odon Vallet's scholarships for outstanding Vietnamese students</i>  | 2017 - 2018 |

## ACHIEVEMENTS

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| <b>ArgMining: Key Point Analysis Shared Task</b><br><i>Eighth Workshop on Argument Mining, co-located with EMNLP</i>   | 2021 |
| <ul style="list-style-type: none"> <li>Presented the 4<sup>th</sup> solution in the workshop, hosted by IBM Research AI team.</li> <li>Extensively conducted experiments and ablation studies with current SOTA models and methods for NLI.</li> </ul>   |      |
| <b>AI City Challenge: Natural Language-Based Vehicle Retrieval</b><br><i>Conference on Computer Vision and Pattern Recognition (CVPR)</i>  | 2021 |
| <ul style="list-style-type: none"> <li>Got the 4<sup>th</sup> place with a siamese model capable of extracting visual concepts from natural language and vice versa.</li> <li>Performed vehicle retrieval given single-camera tracks and natural language descriptions of the targets.</li> </ul>                        |      |
| <b>Multimodal Emotion Recognition on Comics scenes</b><br><i>International Conference on Document Analysis and Recognition (ICDAR)</i>   | 2021 |
| <ul style="list-style-type: none"> <li>Analyzed the emotions of comic characters in comic scenes with additional text data in speech balloons, captions and the onomatopoeia.</li> <li>Won the first prize with a late fusion model, combined the processing of multiple input modalities.</li> </ul>                    |      |
| <b>Reliable Intelligence Identification on Vietnamese SNSs</b><br><i>Seventh International Workshop on Vietnamese Language and Speech Processing (VLSP)</i>  | 2020 |
| <ul style="list-style-type: none"> <li>Achieved a competitive performance (ranked 4<sup>th</sup>) in the VLSP shared task.</li> <li>Proposed different training strategies for a multi-modal model acquired from multiple different data types and effectively adapt to the social network sites information.</li> </ul> |      |
| <b>Credit Scoring Challenge</b><br><i>Kalapa. Jsc</i>  | 2020 |
| <ul style="list-style-type: none"> <li>Team ranked 1/146 with 800 contestants in constructing a banking credit scoring system for bad debt forecasting.</li> <li>Utilized gradient boosting models along with ensemble methods to handle the inconsistency of customer's data.</li> </ul>                                |      |
| <b>University of Liverpool - Ion Switching</b><br><i>Kaggle Research Prediction Competition</i>  | 2020 |
| <ul style="list-style-type: none"> <li>Bronze medalist (solo) in the University of Liverpool's Institute of Ageing and Chronic Disease's competition.</li> <li>Detected ion channel events in noisy electrophysiological signals from human cells.</li> </ul>  |      |
| <b>Practical deep learning</b><br><i>Vietnam Institute for Advanced Study in Mathematics</i>   | 2019 |
| <ul style="list-style-type: none"> <li>Hands-on machine learning course, mainly focus on applied math and conducted experiments, analyzed algorithms on benchmark datasets.</li> <li>Developed a deep learning based Vietnamese spell corrector and rank 1/50 in the final-project defense.</li> </ul>                   |      |

## EXTRACURRICULAR ACTIVITIES

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### **FPT Young Talents**

Hanoi, Vietnam

*K20 Member*

- Organized weekly activities about professional, interdisciplinary knowledge and soft skills (start-ups, debate ...).
- Regular tours to businesses (FPT, Coc Coc ...) and talk shows with scientific experts and business leaders.

## MEDIA MENTIONS

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- Nghe An Province Outstanding Teenager 2018 Award
- Gold Medalist at National Olympiad for Students 2018
- Excellent Ha Tinh Province Students 2017
- Outstanding Vinh HSGS students 2017
- Regional Winter School Program Excellent Students 2017