Van-Quang Nguyen

Postdoctoral Researcher @ RIKEN AIP, Japan

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RESEARCH INTEREST

Deep neural networks (e.g., Multimodal LLMs) for vision-language understanding across diverse domains, such as:

- (Multimodal-)LLMs (e.g, table understanding and scene understanding in interactive environments),
- MLLMs' applications (autonomous driving systems, landslide analysis, etc)

EDUCATION

1. **Ph.D. in Information Sciences**   Oct 2019 - Oct 2022
   Tohoku University♠ — Dean's Award   Supervisor: Prof. Takayuki Okatani

2. **Master in Information Sciences**   Oct 2017 - Oct 2019
   Tohoku University   GPA: 4.0/4.0

3. **Bachelor in Computer Science**   Oct 2012 - Oct 2017
   Vietnam National University (VNU-UET) — highest GPA   GPA: 3.9/4.0

4. **Exchange Student in Fostering ASEAN Future Leaders Program**   Sep 2015 - Aug 2016
   Daejeon University, South Korea   GPA: 4.4/4.5

WORK EXPERIENCES

1. **Postdoctoral Researcher**   Nov 2022 - Present
   RIKEN Center for Artificial Intelligence Project (RIKEN AIP) at Tohoku University campus

2. **Machine Learning Research Intern**   Aug 2020 – Oct 2020
   Preferred Networks Inc. (the largest AI Unicorn in Japan)

3. **Machine Learning Engineer, Part-time**   Mar - Oct 2018
   Laboro.AI Inc. (listed in Japan, approx. $200M valuation)

4. **Machine Learning Research Intern**   Jul - Aug 2017
   Incubation Center of Fujitsu, Japan

PUBLICATIONS

My papers have received approximately **800 citations**; see my [Google Scholar profile](#) for details.

1. Kittitouch Areerob, **Van-Quang Nguyen**, Xianfeng Li, Shogo Inadomi, Toru Shimada, Hiroyuki Kanasaki, Zhijie Wang, Masanori Suganuma, Keiji Nagatani, Pang-jo Chun, Takayuki Okatani, "Multimodal artificial intelligence approaches using large language models for expert-level landslide image analysis," Computer-Aided Civil and Infrastructure Engineering **CACIE 2025** (**Q1 journal**).

2. Korawat Charoenpitaks*, **Van-Quang Nguyen***, Masanori Suganuma, Kentaro Arai, Seiji Totsuka, Hiroshi Ino, Takayuki Okatani, "TB-Bench: Training and Testing Multi-Modal AI for Understanding Spatio-Temporal Traffic Behaviors from Dashcam Images/Videos," , Workshop on Autonomous Driving, **CVPR 2025**.

3. Korawat Charoenpitaks, **Van-Quang Nguyen**, Masanori Suganuma, Masahiro Takahashi, Ryoma Niihara, Takayuki Okatani, "Exploring the Potential of Multi-Modal AI for Driving Hazard Prediction," IEEE Transactions on Intelligent Vehicles, **TIV 2024** (**Q1 journal**).

4. **Van-Quang Nguyen**, Masanori Suganuma, Takayuki Okatani, "GRIT: Faster and Better Image captioning Transformer Using Dual Visual Features," European Conference on Computer Vision, **ECCV 2022**.

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[0] ♠ Tohoku University has been ranked **No. 1 in Japan** for five consecutive years, according to [THE rankings](#).

5. **Van-Quang Nguyen**, Masanori Suganuma, Takayuki Okatani, "Look Wide and Interpret Twice: Improving Performance on Interactive Instruction-following Tasks," International Joint Conferences on Artificial Intelligence, **IJCAI 2021**.

6. **Van-Quang Nguyen**, Masanori Suganuma, Takayuki Okatani, "Efficient Attention Mechanism for Visual Dialog that can Handle All the Interactions between Multiple Inputs," European Conference on Computer Vision, **ECCV 2020**.

7. **Van-Quang Nguyen**, Hiromasa Fujihara, "Revisiting a single-stage method for face detection," IEEE International Conference on Automatic Face & Gesture Recognition, **FG 2019**.

8. **Van-Quang Nguyen**, Jinhee Chun, Takeshi Tokuyama, "CapsuleNet for micro-expression recognition," IEEE International Conference on Automatic Face & Gesture Recognition, **FG 2019**.

9. Quang-Thuy Ha, Thi-Ngan Pham, **Van-Quang Nguyen**, Minh-Chau Nguyen, Thanh-Huyen Pham, Tri-Thanh Nguyen "A new text semi-supervised multi-label learning model based on using the label-feature relations," International Conference on Computational Collective Intelligence, **ICCI 2018**.

10. Quang-Thuy Ha, Thi-Ngan Pham, **Van-Quang Nguyen**, Thi-Hong Vuong, Minh-Tuoi Tran, Tri-Thanh Nguyen, "A new lifelong topic modeling method and its application to vietnamese text multi-label classification," Asian Conference on Intelligent Information and Database Systems, **ACIIDS 2018**.

11. Thi-Ngan Pham, **Van-Quang Nguyen**, Duc-Trong Dinh, Tri-Thanh Nguyen, Quang-Thuy Ha, "MASS: a semi-supervised multi-label classification algorithm with specific features," Asian Conference on Intelligent Information and Database Systems, **ACIIDS 2017**.

12. Thi-Ngan Pham, **Van-Quang Nguyen**, Van-Hien Tran, Tri-Thanh Nguyen, Quang-Thuy Ha, "A semi-supervised multi-label classification framework with feature reduction and enrichment," Journal of Information and Telecommunication, **JIT 2017** (**Q2 Journal**).

Submitted and Preprints:

1. Korawat Charoenpitaks, **Van-Quang Nguyen**, Takayuki Okatani, "Critical Scenario Prediction Planning and Reasoning," on submission to IEEE Transactions on Intelligent Vehicles **TIV 2025**.

2. Anh-Cuong Pham, **Van-Quang Nguyen**, Thi-Hong Vuong, Quang-Thuy Ha, "KTVIC: A Vietnamese Image Captioning Dataset on the Life Domain," Arxiv preprint, 2024.

3. Korawat Charoenpitaks, **Van-Quang Nguyen**, Masanori Suganuma, Masahiro Takahashi, Ryoma Niihara, Takayuki Okatani, "Visual Abductive Reasoning Meets Driving Hazard Prediction: Problem Formulation and Dataset," Arxiv preprint, 2023.

4. Thong Bach, Thuong Nguyen Canh, **Van-Quang Nguyen**, "Leveraging Video Coding Knowledge for Deep Video Enhancement," Arxiv preprint, 2023.

TECHNICAL SKILLS

Programming Languages and Tools	Python, SQL, C/C++, Latex, Git/Github, Bash/Linux
Recent frameworks	Pytorch, Transformers, Langchain, Tensorflow, Keras, etc

ACADEMIC ACTIVITIES

Mentoring

- Kittitouch Areerob (PhD student 2022-now, Tohoku University)

- Korawat Charoenpitaks (PhD student 2021-2025, Tohoku University → Postdoc @ Tohoku Univ.)

- Pham Anh Cuong (Bachelor student 2023, Vietnam National University → Master student at UAE)

- Dang Anh Chuong (Master student 2022, Tohoku University, → ML engineer Woven Planet, Toyota)

Academic services

- Reviewer for CVPR, ICCV, ECCV, NeuRIPS, IJCV, Advanced Robotics, IEEE Trans. Multimedia.

- Committee member & MC for Honda Y-E-S Forum 2021 (link) with over 300 participants.

Teaching Experience

- **Guest Lecturer** for Data Science Advanced Seminar course, Tohoku University — 2024
- **Teaching Assistant** for Data Science Camp I Course, Tohoku University — 2019-2020
- **Teaching Assistant** for Data Science Camp II Course, Tohoku University — 2019-2020
- **Teaching Assistant** for Big Data Challenge Course, Tohoku University — 2019-2020
- **Teaching Assistant** for Data Science Summer School (VNU-UET) — 2016

Presentations and Talks

- "GRIT: Faster and Better Image Captioning Transformers", speaker at Vietnam National University, and at Japan-Vietnam AI Forum 2023—Vietnam Institute for Advanced Study in Mathematics
- "Applications of MLLMs for Domain-specific Problems", speaker at RIKEN AIP joint workshops—University of Melbourne and University of Sydney, July 2025.

SCHOLARSHIPS AND AWARDS

1. **Dean's Award** for Excellent Achievements at Tohoku University — 2023
2. **Best Presentation Award** for Ph.D. research at Tohoku University — 2022
3. Japanese Government Scholarship (MEXT) for Ph.D. Course — 2019 - 2022
4. **Winner of Alfred Challenge** organized by teams at AllenAI and Google — ECCV 2020
5. Honda Young Engineer Scientist Award Plus Ph.D. Fellowship — 2019
6. Japanese Government Scholarship (MEXT) for Master Course — 2017 - 2019
7. Data Science Summer School Scholarship, Gottingen University — 2018
8. Honda Young Engineer Scientist Award for top 10 engineering students in Vietnam — 2017
9. Third Prize of National Scientific Student Research Conference — 2017
10. Excellent Thesis Award (scored 10/10) — 2017
11. First Prize of Scientific Student Research Conference — 2017
12. Excellent Student Award (highest GPA among the K57 cohort) — 2017
13. AmCham Scholarship, American Chamber and the US Ambassy — 2017
14. One-year Exchange scholarship Fostering ASEAN Future Leaders Program, Korea — 2015-2016
15. Machine Learning Summer School Scholarship, Kyoto University — 2015
16. Merit-based University Scholarships, UET-VNU — 2013 - 2017
17. Shinnyo-en Scholarships, Japan, in 3 consecutive years — 2013 - 2016
18. Hoa Trang Nguyen Award, Vietnam — 2012
19. The second highest score in University Entrance Examination — 2012
20. First Prize of National Chemistry Olympiad 2012 — 2012
21. Merit-based New South Wales University Scholarship, Australia — 2012
22. Odon Vallet Scholarship for top high-school students, France — 2011

REFERENCE

Prof. Takayuki Okatani   Supervisor   Email: takayuki.okatani.a2@tohoku.ac.jp