Van-Quang Nguyen

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RESEARCH INTEREST

Deep neural networks and (M)LLMs, with a focus on their applications to diverse domain-specific problems, particularly in vision–language understanding, including visual scene understanding, document understanding, landslide analysis, and autonomous driving systems.

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: 3.88/4.0

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 - Dec 2025
   RIKEN Center for Artificial Intelligence Project (RIKEN AIP), Japan

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. Huyen Tran, **Van-Quang Nguyen**, Farros Alferro, Kang-Jun Liu, Takayuki Okatani "360° Image Perception with MLLMs: A Comprehensive Benchmark and a Training-Free Method," submitted to **CVPR 2026**.

2. **Van-Quang Nguyen** and Takayuki Okatani, "CoReTab: Improving Multimodal Table Understanding with Code-driven Reasoning," submitted to **ACL Rolling Review Oct 2025** (getting 3.5/5.0)

3. 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**).

4. 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**.

5. 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**).

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6. **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**.

7. **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**.

8. **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**.

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

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

11. 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**.

12. 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**.

13. 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**.

14. 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, "CRISP: Critical Scenario Prediction for 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, Unsloth, trl, vllm, Pandas, Numpy, 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, Data Science Camp II Course, and Big Data Challenge Course at Tohoku University   2019-2020
- **Teaching Assistant** for Data Science Summer School (VNU-UET)   2016

Presentations and Talks

- Speaker at Vietnam National University 2022; at AI Forum 2023, Vietnam Institute for Advanced Study in Mathematics; at University of Melbourne and at University of Sydney, July 2025, etc.

REFERENCE

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

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