Minh Hieu **Nguyen**

PhD Candidate – School of ICT
Griffith University, Australia

⚲ https://scholar.google.com/citations?user=4FQSRo4AAAAJ&hl=en
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📖 Summary

My research focuses on **agentic AI and model security**, with particular emphasis on *federated learning, LLMs, recommender systems, and time series*. My work aims to develop robust, efficient, and explainable learning frameworks that address data sparsity, non-IID distributions, and reliability in real-world data-driven systems.

Research : Author of 12 peer-reviewed publications, including **6 international conference papers** (**1 CORE** A^*) and **5 Q1 journal articles**. My CORE A* paper pioneered hypergraph-based market prediction, achieving a 20% gain over state-of-the-art methods with 50+ citations.

Teaching : Teaching assistant and tutor at Griffith University across **five academic semesters**, contributing to tutorial delivery, student consultation, assessment support, and coordination with course convenors. Recipient of the **2024 Student Experience of Teaching Survey Commendation**.

Grant support : Contributed to the preparation of **two successful Australian Government–funded research grants** under the **Aus4Innovation program**, supporting literature review, methodology design, and technical sections.

Software & engineering : Strong background in Python-based research and software development, with experience building machine learning pipelines, experimental frameworks, and full-stack systems to support research and teaching activities. The GitHub repository for my CORE A* paper has gained **70+ stars and 30+ forks**.

🎓 Education

02.2023–Present	**Doctor of Philosophy (PhD) in Computer Science**, Griffith University, Australia
	Thesis topic : *Federated Classification on Edge Devices : Efficiency, Explainability, and Resilience*
10.2020–12.2021	**Master of Data Science and Artificial Intelligence**, HUST, Vietnam
	School of Information and Communication Technology CGPA : 3.9/4.0
09.2015–09.2020	**Engineer of Software Engineering**, Hanoi University of Science and Technology (HUST), Vietnam
	School of Information and Communication Technology

💼 Work Experience

12.2019–02.2023	**Research Assistant**, ICN Laboratory (BK.AI), Hanoi University of Science and Technology, Vietnam
01.2021–08.2021	**Research Assistant**, Smart Health & Service Laboratory, VinUniversity, Vietnam
10.2017–05.2018	**Software Developer (Part-time)**, OpenCommerce Group, Vietnam

🎓 Honors and Awards

2024	Student Experience of Teaching Survey Commendation, Griffith University
2021	Best Presentation Award, Summer School on Advances in Data Science and Artificial Intelligence, HUST
2021	First Place, Hackathon 2021, jointly organized by IBM Vietnam and HUST
	Temasek Foundation International Specialists' Community Action and Leadership Exchange Program

🎓 Highlighted Teaching Activities

T3-2025	**Data Management**, *Teaching assistant*, Griffith University
T1-2025	**Data Structures and Algorithms**, *Teaching assistant*, Griffith University
T1-2025	**Computing Algorithms**, *Teaching assistant*, Griffith University
T1-2025	**Big Data Analytics**, *Teaching assistant*, Griffith University
T1-2025	**Introduction to AI Big Data Analytics**, *Teaching assistant*, Griffith University
T3-2024	**Data Management**, *Teaching assistant*, Griffith University
T2-2024	**Introduction to AI Big Data Analytics**, *Teaching assistant*, Griffith University
T2-2024	**Data Processing and Visualisation**, *Teaching assistant*, Griffith University
T2-2023	**Introduction to Big Data Analytics**, *Teaching assistant*, Griffith University
T1-2023	**Big Data Analytics**, *Teaching assistant*, Griffith University
T1-2023	**Computing Algorithms**, *Teaching assistant*, Griffith University

</> Languages

> **Vietnamese** : Native speaker
> **English** : PTE Academic 90/90 (Listening 90, Speaking 90, Reading 89, Writing 90)

+ Links

> Google Scholar : Minh Hieu Nguyen
> LinkedIn : Minh Hieu Nguyen

📖 Publications

Journal Articles

KBS 2026 (IF 7.6, Q1, *in revision*) — Minh Hieu Nguyen, Thanh Tam Nguyen, Jun Jo, Duc Anh Nguyen, Hongzhi Yin, Quoc Viet Hung Nguyen. **Handling Data Sparsity and Model Poisoning Attacks in Federated Sequential Recommender Systems**. In revision of Knowledge-Based Systems, 2026.

Sci. China Inf. Sci. 2025 (IF 7.6, Q1) — Minh Hieu Nguyen, Thanh Trung Huynh, Thanh Toan Nguyen, Phi Le Nguyen, Hien Thu Pham, Jun Jo, Thanh Tam Nguyen. **On-device diagnostic recommendation with heterogeneous federated BlockNets**. In Science China Information Sciences 2025.

Sci. Rep. 2022 (IF 3.9, Q1) — Anh Duy Nguyen, Phi Le Nguyen, Viet Hung Vu, Quoc Viet Pham, Viet Huy Nguyen, Minh Hieu Nguyen, Thanh Hung Nguyen, Kien Nguyen. **Accurate discharge and water level forecasting using ensemble learning with genetic algorithm and singular spectrum analysis-based denoising**. In Scientific Reports 2022.

KBS 2022 (IF 7.6, Q1) — Thanh Tam Nguyen, Thanh Cong Phan, Minh Hieu Nguyen, Matthias Weidlich, Hongzhi Yin, Jun Jo, Quoc Viet Hung Nguyen. **Model-agnostic and diverse explanations for streaming rumour graphs**. In Knowledge-Based Systems 2022.

ACM TOSN 2022 (IF 4.1, Q2) — La Van Quan, Minh Hieu Nguyen, Thanh Hung Nguyen, Kien Nguyen, Phi Le Nguyen. **On the global maximization of network lifetime in wireless rechargeable sensor networks**. In ACM Transactions on Sensor Networks 2022.

IEEE Access 2021 (IF 3.367, Q1) — Minh Hieu Nguyen, Phi Le Nguyen, Kien Nguyen, Van An Le, Thanh Hung Nguyen, Yusheng Ji. **PM2.5 prediction using genetic algorithm-based feature selection and encoder-decoder model**. In IEEE Access 2021.

Conference Papers

SIGIR 2026 (CORE A*, *in submission*) — Minh Hieu Nguyen, Viet Hung Doan, Alan Wee-Chung Liew, Hongzhi Yin, Quoc Viet Hung Nguyen, Thanh Tam Nguyen. **Overcoming Data Sparsity in Federated Recommendation with On-Device Agentic Heterogeneous Data Generation**. In submission of SIGIR 2026.

ACIIDS 2025 (CORE B) — Minh Hieu Nguyen, Viet Hung Doan, Anh Tuan Nguyen, Jun Jo, Quoc Viet Hung Nguyen. **Streaming counterfactual subset selection with bias awareness**. In International Conference on Data Engineering (ICDE) 2025.

ADMA 2024 (CORE B) — Dong Duc Anh Nguyen, Minh Hieu Nguyen, Phi Le Nguyen, Jun Jo, Hongzhi Yin, Thanh Tam Nguyen. **Multi-task learning of heterogeneous hypergraph representations in LBSNs**. In Advanced Data Mining and Applications 2024.

ADC 2024 (CORE B) — Hien Thu Pham, Minh Hieu Nguyen, Hiep Minh Ha, Ngoc Quang Hung Le, Jun Jo. **Towards comprehensive innovation landscape : Technology retrieval meets large language models**. In Australasian Database Conference 2024.

WSDM 2023 (CORE A*) — Thanh Trung Huynh, Minh Hieu Nguyen, Thanh Tam Nguyen, Phi Le Nguyen, Matthias Weidlich, Quoc Viet Hung Nguyen, Karl Aberer. **Efficient integration of multi-order dynamics and internal dynamics in stock movement prediction**. In WSDM 2023.

ACIIDS 2022 (CORE B) — Minh Hieu Nguyen, Viet Huy Nguyen, Thanh Trung Huynh, Thanh Hung Nguyen, Quoc Viet Hung Nguyen, Phi Le Nguyen. **A lightweight and efficient GA-based model-agnostic feature selection scheme for time series forecasting**. In ACIIDS 2022.

ACIIDS 2022 (CORE B) — Minh Tam Pham, Thanh Dat Hoang, Minh Hieu Nguyen, Viet Hung Vu, Thanh Trung Huynh, Quyet Thang Huynh. **Social multi-role discovering with hypergraph embedding for location-based social networks**. In ACIIDS 2022.

IEA/AIE 2021 (CORE C) — Anh Duy Nguyen, Viet Hung Vu, Minh Hieu Nguyen, Duc Viet Hoang, Thanh Hung Nguyen, Kien Nguyen, Phi Le Nguyen. **Efficient prediction of discharge and water levels using ensemble learning and singular-spectrum analysis-based denoising**. In IEA/AIE 2021.

🔖 References

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