Manh V. Nguyen

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Education

- **Ph.D Candidate in Computer Science** — *August 2022 - Now*
  Kennesaw State University — Georgia, USA
  - GPA: 4.00
  - Focus: *Distributed Learning, Neuromorphic Computing, Post-Quantum Security*
  - Submitted 12 papers and abstracts, 8 as main author, 10 accepted, 1 pending review.
  - Provide input for 1 patent application (in QKD) & 1 awarded NSF grant proposal (with Dr. Liang Zhao)
  - Instruct other PhD, Ms & undergraduate students in research.
- **Bachelor in Computer Science** — *2016 - 2021*
  University of Engineering and Technology - Vietnam National University — Hanoi, Vietnam
  - Thesis: *Wifi SDN with OpenWRT devices*

Work Experience

- **Lead Developer** — *2020 - 2022*
  Corsource Technology [🌐] — Hanoi, Vietnam
  - Migrated 2 FinTech web applications onto AWS serverless: Lambda, DynamoDB, RDS, S3.
  - Led a team of 4 developers and 1 tester.
- **DevOps Engineer** — *2018 - 2021*
  FPT Software [🌐] - An outsource/consultancy company — Hanoi, Vietnam
  - With Telstra - Australia
    - Built and maintained CI/CD pipelines and Kubernetes deployment workflows.
    - Supported AWS-based application platforms for engineering teams.
  - With Sysmex - America
    - Security audit for Edge - Cloud application.
    - Helped achieve HITRUST certification for healthcare compliance.
- **Network Admin** — *2021 - 2022*
  University of Engineering & Technology - Vietnam National University [🌐] — Hanoi, Vietnam
  - Maintained campus-wide network systems and Linux/Windows server stacks for 4000 users.
  - Provided IT support for 100+ faculties.

Certifications

- **Certified Kubernetes Administrator (CKA)** — *Sep 2022*
- **AWS Certified Developer - Associate** — *Nov 2019*
- **AWS Certified Solutions Architect - Associate** — *Feb 2019*

Awards

- **VOI Nation-wide Programming Contests** — *2015 & 2016*
  Organized by Vietnam's Ministry of Education and Training — [🌐]
  - Prizes: Third 2015 & Consolation 2016.
  - Demonstrated problem-solving expertise in Algorithms & Data Structures.
- **Nomination for Best Paper Award** — *2026*
  IEEE The 22nd International Wireless Communications & Mobile Computing Conference
- **Runner for Best Paper Award (5/131)** — *2025*
  IEEE Mobile Ad-Hoc and Smart Systems (MASS 2025) Conference
- **NSF Student Travel Grant** — *2025*
  National Science Foundation
  - Granted to reimburse students' travel and presentation at the IEEE MASS 2025 conference
- **KSU Student Travel Award (3 times)** — *2026*
  Kennesaw State University Office of Graduate Admissions & College of Computing and Software Engineering
  - Granted to reimburse students' travel for research presentations
- **KSU Doctoral Dissertation Grant ($5000)** — *2022, 2024, 2025*
  Kennesaw State University

VOLUNTEER

- **Vice President** *Oct 2022 - Aug 2025*
  International Student Fellowship [🌐]
  - Our RSO provides international students at Kennesaw State University with food and services.
  - About 80 people come to our weekly Friday night events: meal, games, discussions.
  - 2419 attendees in total, 387 unique individuals, 27 countries represented, 80+ volunteers.

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS, D=DISSERTATION

[D.1] **Manh V. Nguyen** (2026). *Federated Neuromorphic Intelligence: Advancing Robustness, Efficiency, and Continual Adaptation in Edge Environments*. Doctoral Dissertation at Kennesaw State University.

[J.1] **MV Nguyen**, L Zhao, B Deng, J Zhang, S Wu (2025). *Federated Spiking Neural Networks with Top-κ Vector-wise Trimming for Byzantine-Robust and Communication-Efficient Edge Intelligence*. Manuscript accepted at IEEE Internet of Things Journal. Available: https://ieeexplore.ieee.org/document/11500453

[S.2] **M Nguyen**, L Zhao, S Wu, B Deng (2026). *Hybrid Neuromorphic Federated Learning: Collaborative ANN–SNN Training in Heterogeneous Edge Environments*. Manuscript submitted at IEEE-ICONS26.

[C.9] **M Nguyen**, L Zhao, S Wu, B Deng (2026). *Federated Learning with SNNs: Devices Cooperation in A Mixed Ecosystem of Traditional and Neuromorphic Hardware*. Abstract accepted at Energy Consequences of Information Conference (ECI 2026).

[C.8] **M Nguyen**, L Zhao, S Wu (2026). *Neuromorphic Federated Continual Learning: A Spiking Neural Network Approach*. Manuscript accepted at IEEE-IWCMC2026. **Nominated for best paper award.**

[C.7] **M Nguyen**, L Zhao, B Deng, S Wu (2025). *FL-SNNs: Benchmarking the Byzantine-Robustness of Uniquely-Shaped Surrogate Gradients*. Manuscript accepted at IEEE-MASS2025. **Runner up for best paper award.**

[C.6] **MV Nguyen**, L Zhao, B Deng, W Severa, H Xu, S Wu (2024). *The Robustness of Spiking Neural Networks in Communication and its Application towards Network Efficiency in Federated Learning*. Published at IEEE IPCCC24. Orlando, FL. Available: https://arxiv.org/abs/2409.12769

[C.5] **MV Nguyen**, L Zhao, B Deng, S Wu (2025). *Sparsified Federated Learning with Spiking Neural Networks: Resistance Against Byzantine Attacks while Lowering Communication Traffics*. Manuscript accepted at IEEE-VTC2025. Available: https://arxiv.org/abs/2501.03306

[T.1] **Manh V. Nguyen** (2021). *A Software-defined Networking Framework and its Application in Dynamic Bandwidth Distribution for Wifi Networks*. Undergraduate thesis at Vietnam National University. Defense available: https://www.youtube.com/watch?v=X7RyuYLGJ1o

[S.1] **Manh V. Nguyen** et al. (2023). *Advancements of Joint BB84-MDI Quantum Key Distribution: Architecture, Protocol, and Evaluation*. Submitted to IEEE INFOCOM24.

[C.4] TV Le, **MV Nguyen**, S Khandavilli, TN Dinh, TN Nguyen (2023). *Quantum Annealing Approach for Selective Traveling Salesman Problem*. Published at ICC 2023 – IEEE International Conference on Communications. Available: https://par.nsf.gov/servlets/purl/10422610

[C.3] S Khandavilli, I Palanisamy, **MV Nguyen**, TV Le, TN Nguyen, TN Dinh (2023). *Towards Fidelity-Optimal Qubit Mapping on NISQ Computers*. Published at IEEE QCE23. Available: https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313857

[C.2] TV Le, **MV Nguyen**, TN Nguyen, TN Dinh, I Djordjevic, ZL Zhang (2023). *Benchmarking Chain Strength: An Optimal Approach for Quantum Annealing*. Published at IEEE QCE23. Available: https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313918

[C.1] TN Nguyen, DHP Nguyen, **MV Nguyen**, TV Le, BH Liu, TN Dinh (2023). *Maximizing Key Distribution Capability: An Application in Quantum Cryptography*. Published at IEEE QCE23. Available: https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313749