

# Manh V. Nguyen

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- **LLM Agents:** LangChain, LangGraph, AutoGen, CrewAI, Semantic Kernel, Ollama, Llamacpp
- **Programming:** Javascript, HTML, Python, Shellsript, C, REST APIs
- **Cloud / DevOps:** AWS, Azure, GCP, Docker, Kubernetes, Terraform, Jenkins, Ansible, Git
- **ML / Research:** Jupyter, PyTorch, Edge Computing, Parallel Optimization, WandB
- **Databases:** Postgres, MySQL, MongoDB, DynamoDB, Boolean Algebra
- **Security / Linux:** PKI, SSO, iptables, iproute2, HITRUST

## EDUCATION

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- **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.
  - Built AI/ML experiments with Python, PyTorch, Jupyter, and distributed learning workflows.
  - Re-purpose, debug & write-from-scratch open-sourced ML projects.
  - 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

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- **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.
  - Worked on full-stack web application features, bug fixes, releases, and production support.
  - Reviewed code and supported junior developers.
  - Worked with clients and QA to deliver features from requirements to deployment.
- **DevOps Engineer** 2018 - 2021  
*FPT Software* Hanoi, Vietnam
  - Worked with international clients in telecom and healthcare.
  - Automated CI/CD pipelines with Jenkins and Gitlab.
  - Deployed containerized workloads via Kubernetes on AWS: EC2, ELB, S3, DynamoDB, RDS.
  - Provided Platform-as-a-Service for software engineers at Telstra.
  - Supported cloud infrastructure, deployment issues, and production troubleshooting.
  - 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.
  - Troubleshot network, server, and user access issues.

## CERTIFICATIONS

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- **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.
- *Algorithms & Data Structures*

## VOLUNTEER

### • Vice President

Oct 2022 - Present

*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 meal events.
- *Communication & Leadership*

## PUBLICATIONS

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

- [J.1] *Federated Spiking Neural Networks with Top- $\kappa$  Vector-wise Trimming for Byzantine-Robust and Communication-Efficient Edge Intelligence* (2025). Manuscript accepted at IEEE Internet of Things Journal. Available: <https://ieeexplore.ieee.org/document/11500453>
- [S.2] *Hybrid Neuromorphic Federated Learning: Collaborative ANN-SNN Training in Heterogeneous Edge Environments* (2026). Manuscript submitted at IEEE-ICONS26.
- [C.9] *Federated Learning with SNNs: Devices Cooperation in A Mixed Ecosystem of Traditional and Neuromorphic Hardware* (2026). Abstract accepted at Energy Consequences of Information Conference (ECI 2026).
- [C.8] *Neuromorphic Federated Continual Learning: A Spiking Neural Network Approach* (2026). Manuscript accepted at IEEE-IWCMC2026. **Nominated for best paper award.**
- [C.7] *FL-SNNs: Benchmarking the Byzantine-Robustness of Uniquely-Shaped Surrogate Gradients* (2025). Manuscript accepted at IEEE-MASS2025. **Runner up for best paper award.**
- [C.6] *The Robustness of Spiking Neural Networks in Communication and its Application towards Network Efficiency in Federated Learning* (2024). Published at IEEE IPCCC24. Orlando, FL. Available: <https://arxiv.org/abs/2409.12769>
- [C.5] *Sparsified Federated Learning with Spiking Neural Networks: Resistance Against Byzantine Attacks while Lowering Communication Traffics* (2025). Manuscript accepted at IEEE-VTC2025. Available: <https://arxiv.org/abs/2501.03306>
- [T.1] *A Software-defined Networking Framework and its Application in Dynamic Bandwidth Distribution for Wifi Networks* (2021). Undergraduate thesis at Vietnam National University. Defense available: <https://www.youtube.com/watch?v=X7RyuYLGJ1o>
- [S.1] *Advancements of Joint BB84-MDI Quantum Key Distribution: Architecture, Protocol, and Evaluation.* Submitted to IEEE INFOCOM24.
- [C.4] *Quantum Annealing Approach for Selective Traveling Salesman Problem* (2023). Published at ICC 2023 – IEEE International Conference on Communications. Available: <https://par.nsf.gov/servlets/purl/10422610>
- [C.3] *Towards Fidelity-Optimal Qubit Mapping on NISQ Computers* (2023). Published at IEEE QCE23. Available: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313857>
- [C.2] *Benchmarking Chain Strength: An Optimal Approach for Quantum Annealing* (2023). Published at IEEE QCE23. Available: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313918>
- [C.1] *Maximizing Key Distribution Capability: An Application in Quantum Cryptography* (2023). Published at IEEE QCE23. Available: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10313749>