Quang-Trung Luu

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luuquangtrung.github.io Github: luuquangtrung LinkedIn: luuquangtrung GoogleScholar

Research interests

Computing: Cloud/edge computing, coflow management, deadline-aware task scheduling
Intelligence: Applied AI/ML for networking (deep learning, deep reinforcement/reinforcement learning)
Networking: 5G and beyond, network slicing, open radio access network (O-RAN), IoT

Academic Experiences

2025–pres	**Associate Professor**, CentraleSupélec, Paris-Saclay University	Paris, France
2023–2025	**Assistant Professor**, Hanoi University of Science and Technology	Hanoi,Vietnam
2021–2022	**Postdoctoral Fellow**, French National Centre for Scientific Research (CNRS)	Toulouse, France
2017–2021	**Doctoral Fellow**, CentraleSupélec, Paris-Saclay University	Paris, France
2017–2020	**Research Engineer**, Nokia Bell Labs	Paris, France
04–09/2017	**Research Intern**, Inria & Ecole Normale Supérieure	Lyon, France

Education

2017–2021 **Ph.D. in Information & Communication Networks**, *CentraleSupélec–Paris-Saclay University*
Thesis: *Dynamic Control and Optimization of Wireless Virtual Networks* (GDR-RSD Best Ph.D Award)
Advisors: Prof. Michel Kieffer (Paris-Saclay) and Dr. Sylvaine Kerboeuf (Nokia Bell Labs)

2016–2017 **M.Sc. in Multimedia Networking**, *Paris-Saclay University & Télécom Paris*
Thesis: *Optimization of 802.11-based Wireless Networks*
Advisors: Profs. Anthony Busson and Isabelle Guérin-Lassous (Univ. Lyon 1)

2015–2016 **M.Sc. in Antennas and Telecom Devices**, *Paris-Saclay University*
Thesis: *Wireless Power Transfer for Implantable Medical Devices*
Advisors: Profs. Antoine Diet, Yann Le Bihan (Paris-Saclay), and Stavros Koulouridis (Univ. Patras)

2008–2013 **B.Sc. in Electronics and Telecoms**, *Hanoi University of Science and Technology (HUST)*
Thesis: *Optimization of Resonator Configuration for Wireless Power Transmission Systems*
Advisors: Profs. Cao-Minh Ta and Yem Vu-Van (HUST)

Granted Projects

2025–2028 **Developing distributed video processing system for smart cities**
Budget: ~ $391K. Funded by the Vietnamese National Program KC-01. Role: Co-investigator.

2025–2026 **Resource optimization for network slicing in next-generation mobile networks**
Budget: ~ $23.6K. Funded by the Government of Vietnam (MOET). Role: PI.

2024–2026 **Enhancing the performance of 6G Open RAN integrating edge computing and network slicing**
Budget: ~ $71K. Funded by the Government of Vietnam (NAFOSTED). Role: Co-PI.

2023–2026 **Typhoon formation prediction using machine learning**
Budget: ~ $166K. Funded by VinIF Foundation. Role: Co-investigator.

Supervision

Doctoral Students

2026–2030 **Minh-Thanh Nguyen**, Trinity College Dublin
(co-advised with Prof. Van-Dinh Nguyen)
Topic: Multi-agent Deep Reinforcement Learning

2023–2027 **Tuan-Vu Truong**, University of Technology Sydney and VinUniversity
(co-advised with Prof. Diep Nguyen and Prof. Van-Dinh Nguyen)
Topic: Resouce allocation for network slicing in open radio access network (Open RAN)

2023–2027 **Minh-Tuong Nguyen**, University of Technology Sydney and VinUniversity
(co-advised with Prof. Diep Nguyen and Prof. Van-Dinh Nguyen)
Topic: Resource allocation for serverless functions in mobile edge cloud environments

Master's Students

2024–2026 **Kim-Hoan Do**, Hanoi University of Science and Technology
Topic: Resource allocation for Open RAN slicing

2023–2025 **Quang-Lap Luu**, Hanoi University of Science and Technology
Topic: Machine learning for typhoon formation prediction

2021–2022 **Jobayer Morshed & Abdel Ouahd Alouane**, Institut Polytechnique de Paris
Topic: Scheduling coflows in datacenter networks.

2020–2021 **Xavier Goeman & Carlos Guzman**, Institut Polytechnique de Paris
Topic: Embedding algorithms for network slices dedicated to multimedia services

Honors and Awards

April 2025 **Professional Fellow**, *Asia Pacific Network Information Centre (APNIC)*
July 2024 **Travel Grant Award**, *Annual US-ASEAN Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia*, organized by the U.S. Department of State, Arizona State University, and Rochester Institute of Technology (top 35 of all ASEAN applicants)
Dec. 2023 **Best Poster Award**, *Asian Internet Engineering Conference (AINTEC)*
May 2022 **Best PhD Thesis on Distributed Systems and Networks**, *GDR-RSD & ACM SigOps France*
Oct. 2020 **Publication Award**, *Nokia Bell Labs*
Dec. 2019 **Travel Grant**, *Global Young Vietnamese Scholars Network*
Dec. 2018 **Student Travel Grant Award**, *IEEE Global Communications Conference (IEEE GLOBECOM)*
2017–2020 **CIFRE Fellowship**, *French National Association for Technical Research (ANRT)*
2015–2016 **IDEX Master's Scholarship**, *Paris-Saclay University*
May 2013 **Student Research Prize (first runner-up)**, *Hanoi University of Science and Technology*

Skills

Techniques: Mathematical programming, optimization, applied AI/ML (e.g., RL/DRL, GNN)
Coding: Python, MATLAB, C/C++, Bash scrips
Tools: git, ns-3, CPLEX, Jupyter notebook, Microsoft Office, LaTeX, InkScape
Libraries: NetworkX, NumPy, Pandas, PyTorch, scikit-learn, TensorFlow, matplotlib
Languages: *Vietnamese* (mother tongue), *English* (fluent), *French* (fluent)

Academic Services

Organizing Committee:

- Track Chair, Networks Track, 2025 International Conference on Advanced Technologies For Communications (ATC'25)
- Track Chair, Communication Networks and Systems Track, 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Session Chair, Special Session on Recent Advances in B5G/6G Networks, 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Jury member, 2020 Annual Ph.D Student Workshop of CentraleSupélec (session "AI and networking")

Member of Technical Program Committee (TPC):

- IEEE Global Communication Conference (GLOBECOM): GLOBECOM'26
- International Conference on Network of the Future (NoF): NoF'26
- International Conference on Information Technology and Its Applications (CITA): Special Session on Sustainable and AI-Enabled Telecommunication Systems for Perception-Aware Connected Societies (SPACS'26)
- IEEE International Conference on Communications and Electronics (ICCE): ICCE'24, ICCE'26
- International Conference on Advanced Technologies For Communications (ATC): ATC'25
- International Conference on Computing and Communication Technologies (RIVF): RIVF'25
- International Symposium on Information and Communication Technology (SoICT)': SoICT'22
- International Conference on Networks (ICN): ICN'20, ICN'21, ICN'22

Regular reviewer for journals: IEEE Journal on Selected Areas in Communications (JSAC); IEEE/ACM Transactions on Networking (TON); IEEE Transactions on Mobile Computing (TMC); IEEE Transactions on Network and Service Management (TNSM); IEEE Transactions on Parallel and Distributed Systems (TPDS); IEEE Open Journal of the Communications Society (OJCOMS); IEEE System Journal (ISJ); IEEE Communications Letters (COMML); Elsevier Computer Networks (COMNET); Elsevier Computer Communications (COMCOM); Springer Nature Journal of Network and Systems Management (JNSM).

Regular reviewer for conferences: IEEE Global Communications Conference (GLOBECOM); IEEE International Conference on Communications (ICC); IEEE Vehicular Technology Conference (VTC); IEEE International Conference on Advanced Technologies for Communications (ATC); IEEE International Conference on Smart Computing (SMARTCOMP).

Other Activities

Since 2023 **Head of local organizing team**, *Vietnam Summer School of Science (VSSS)*, Quy Nhon, Vietnam. Since 2013, VSSS has grown into an annual event with nearly 150 participants each year, offering scientific training to almost 2,000 students nationwide.

Since 2020 **Founder & admin**, telecom-vn—a group gathering more than 400 Vietnamese researchers in networking and telecoms (as of Aug. 2025)

Publications

Research profiles: Google Scholar, ORCID, HAL Archives Ouvertes, ResearchGate

Patents

(b_1) Sylvaine Kerboeuf, **Quang-Trung Luu**, Michel Kieffer, and Alexandre Mouradian, "Slice Resource Provisioning Method Addressing Multiple Slice Demands with SLA Guarantee," *US Patent 11,431,562 B2*, filed 07 December 2018, issued 16 December 2021, granted 30 August 2022.

In preparation

(p_1) **Quang-Trung Luu**, Cong-Viet Hoang, Ha-Son Nguyen, and Dang-Vu Nguyen, "Timirax: Joint Acceptance Rate and Completion Time Optimization for Coflows in Datacenters," to be submitted to *IEEE Networking Letters*, 2026.

(p_2) Ngoc Hung Nguyen, Nguyen Van Thieu, Senura H. Wanasekara, Van-Dinh Nguyen, **Quang-Trung Luu**, Nguyen Cong Luong, and Anh Tuan Nguyen, "Joint Autonomous Control and Tasks Handling in Intelligent Transportation Systems," to be submitted to *IEEE Transactions on Intelligent Transportation Systems*, 2026.

Submitted, in review

(s_1) **Quang-Trung Luu**, Minh-Thanh Nguyen, Michel Kieffer, Tuan-Anh Do, and Van-Dinh Nguyen, "Network Slice Embedding with Flexible VNF Order: A Branch-and-Bound Approach," submitted to *IEEE Transactions on Network and Service Management*, 2026 (major revision, preprint: arXiv:2412.05993).

(s_2) Tuan-Vu Truong, **Quang-Trung Luu**, Van-Dinh Nguyen, Dinh Thai Hoang, and Diep N. Nguyen, "A Multi-Agent and Attention-Based DRL Approach for Joint Radio and Computing Resource Orchestration in Open RAN Slicing," submitted to *IEEE Transations on Communications*, 2026.

(s_3) Le-Hung Hoang, **Quang-Trung Luu**, Dinh Thai Hoang, Diep N. Nguyen, and Van-Dinh Nguyen, "Securing SIM-Assisted Wireless Networks via Quantum Reinforcement Learning," submitted to *IEEE Transations on Communications*, 2026.

(s_4) Ngoc Hung Nguyen, Nguyen Van Thieu, **Quang-Trung Luu**, Anh Tuan Nguyen, Senura Wanasekara, Nguyen Cong Luong, Fatemeh Kavehmadavani, Van-Dinh Nguyen, "Oranits: Mission Assignment and Task Offloading in Open RAN-based ITS using Metaheuristic and Deep Reinforcement Learning," submitted to *IEEE Transactions on Vehicular Technology*, 2026.

(s_5) Nguyen Van Duc, Bui Duc Manh, **Quang-Trung Luu**, Dinh Thai Hoang, Van-Linh Nguyen, and Diep N. Nguyen, "HEDI: Efficient Homomorphic-Encrypted Deep Inference for Privacy-Preserving UAV–Edge Face Analytics," submitted to *Adhoc Networks*, 2026.

Journal papers (peer-reviewed)

(j_1) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, "Accelerating Resource Allocation in Open RAN Slicing via Deep Reinforcement Learning," in *IEEE Transactions on Network and Service Management*, 2026, doi: 10.1109/TNSM.2026.3665553.

(j_2) Minh-Tuong Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, and Le-Nam Tran, "Deadline-Aware Task Offloading with Concurrency in Serverless Edge Computing," in *IEEE Internet of Things Journal*, 2026, doi: 10.1109/JIOT.2026.3665108.

(j_3) **Quang-Trung Luu**, Do-Minh Tran, Minh-Thanh Nguyen, Michel Kieffer, Dinh Thai Hoang, Tai-Hung Nguyen, Huu-Thanh Nguyen, Van-Dinh Nguyen, "Network Slice Embedding with Flexible Configurations in 5G Networks and Beyond," in *IEEE Networking Letters*, 2026, doi: 10.1109/LNET.2026.3653831.

(j_4) Phong C. H. Nguyen, Joseph B. Choi, and **Quang-Trung Luu**, "Deep learning with fourier features for regressive flow field reconstruction from sparse sensor measurements," in *Scientific Reports*, 2026, doi: 10.1038/s41598-026-36301-y (Scopus Q1, IF 3.9, preprint: arXiv:2411.13815).

(j_5) Xuan Hoang Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, Toan Dinh Gian, and Oh-Soon Shin, "Robust WiFi Sensing-based Human Pose Estimation Using Denoising Autoencoder and CNN with Dynamic Subcarrier Attention," in *IEEE Internet of Things Journal*, 2025, doi: 10.1109/JIOT.2025.3535156. (E-ISSN: 2327-4662, Scopus Q1, IF 8.2).

(j_6) Rachid El-Azouzi, Francesco De Pellegrini, Afaf Arfaoui, Cédric Richier, Jeremie Leguay, **Quang-Trung Luu**, Youcef Magnouche, and Sebastien Martin, "Semi-distributed Coflow Scheduling in Datacenters," in *IEEE Transactions on Network and Service Management*, 2024, doi: 10.1109/TNSM.2024.3395992. (E-ISSN: 1932-4537, Scopus Q1, IF 5.3).

(j_7) Olivier Brun, Rachid El-Azouzi, **Quang-Trung Luu**, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, "Weighted Scheduling of Time-Sensitive Coflows," in *IEEE Transactions on Cloud Computing*, 2024, doi: 10.1109/TCC.2024.3384514 (E-ISSN: 2168-7161, arXiv: 2303.17175, Scopus Q1, IF 6.5).

(j_8) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "Admission Control and Resource Provisioning for Prioritized Slice Requests with Uncertainties," in *IEEE Transactions on Network and Service Management*, 2022, doi: 10.1109/TNSM.2022.3160352. (E-ISSN: 1932-4537, hal: hal-03614028, arXiv: 2203.09367, Scopus Q1, IF 5.3)

(j_9) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "Uncertainty-Aware Resource Provisioning for Network Slicing," in *IEEE Transactions on Network and Service Management*, vol. 18, no. 1, pp. 79-93, Mar. 2021, doi: 10.1109/TNSM.2021.3058139 (E-ISSN: 1932-4537, hal: hal-03418308, arXiv: 2006.01104, Scopus Q1, IF 5.3)

(j_{10}) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, "Coverage-Aware Resource Provisioning Method for Network Slicing" in *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2393-2406, Dec. 2020, doi: 10.1109/TNET.2020.3019098 (E-ISSN: 1558-2566, hal: hal-03097001, arXiv: 1907.09211v3, Scopus Q1, IF 3.7)

Conference papers (peer-reviewed)

(c_1) Kim-Hoan Do, Tai-Hung Nguyen, **Quang-Trung Luu**, Minh-Thanh Nguyen, Do-Minh Tran, and Van-Dinh Nguyen, "Graph Neural PPO for Joint User Association and Resource Allocation in Open RAN," in *Proc. 2026 4oth International Conference on Information Networking (ICOIN)*, 2026, doi: TBD.

(c_2) Ngoc Hung Nguyen, Van Thieu Nguyen, **Quang-Trung Luu**, Vo Phi Son, and Van-Dinh Nguyen, "A Metaheuristic Approach for Mission Assignment and Task Offloading in Open RAN-Enabled Intelligent Transport Systems," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Taipei, Taiwan, 2025, pp. 1-6, doi: TBD.

(c_3) Le-Hung Hoang, Minh-Hoang Pham, **Quang-Trung Luu**, and Van-Dinh Nguyen, "Secure Multiuser Communications with Stacked Intelligent Metasurfaces using Quantum Reinforcement Learning," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268562.

(c_4) Duc-Tien Nguyen, Trong-Tin Nguyen, Tai Hung Nguyen, Nguyen Huu Thanh, and **Quang-Trung Luu**, "Resource Allocation for Open Radio Access Networks Using Reinforcement Learning," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268771.

(c_5) **Quang-Trung Luu**, Minh-Thanh Nguyen, Tai-Hung Nguyen, Michel Kieffer, Van-Dinh Nguyen, Quang-Lap Luu, and Trung-Toan Nguyen, "Admission Control and Embedding of Network Slices with Flexible VNF Order," in *Proc. 20th International Conference on Network and Service Management (CNSM)*, Prague, Czech Republic, 2024, pp. 1-5, doi: 10.23919/CNSM62983.2024.

(c_6) Duc-Manh Nguyen, Duc-Hai Do, Thanh-Hai Tran, and **Quang-Trung Luu**, "Real-Time Pig Counting Embedded System via Video Object Detection and Tracking," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Ho Chi Minh City, Vietnam, 2024, pp. 655-660, doi: 10.1109/ATC63255.2024.10908322..

(c_7) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, Efficient Resource Allocation Framework for Network Slicing-enabled Open RAN," *IEEE International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, 2024, pp. 747-752, doi: 10.1109/ICCE62051.2024.10634735 (E-ISSN: 2836-4392).

(c_8) Minh-Thanh Nguyen, **Quang-Trung Luu**, Tai-Hung Nguyen, Do-Minh Tran, Tuan-Anh Do, Kim-Hoan Do, and Van-Hieu Nguyen, "Accelerating Network Slice Embedding with Reinforcement Learning," *IEEE International Conference on Communications and Electronics (ICCE)*, Danang, Vietnam, 2024, pp. 78-83, doi: 10.1109/ICCE62051.2024.10634634. (E-ISSN: 2836-4392)

(c_9) **Quang-Trung Luu**, Olivier Brun, Rachid El-Azouzi, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, "DCoflow: Deadline-Aware Scheduling Algorithm for Coflows in Datacenter Networks," in *Proc. IFIP Networking Conference*, Catania, June 2022, pp. 1-9.

(c_{10}) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "Foresighted Resource Provisioning for Network Slicing," in *Proc. IEEE International Conference on High Performance Switching and Routing (HPSR)*, Paris, June 2021, pp. 1-8.

(c_{11}) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, and Michel Kieffer, "Radio Resource Provisioning for Network Slicing with Coverage Constraints," in *Proc. IEEE International Conference on Communications (ICC)*, Dublin, Ireland, June 2020, pp. 1-6. (Bell Labs Publication Award).

(c_{12}) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, "Aggregated Resource Provisioning for Network Slices," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Abu Dhabi, Dec. 2018, pp. 1-6 (IEEE ComSoc Student Travel Award).

(c_{13}) **Quang-Trung Luu**, Stavros Koulouridis, Antoine Diet, Yann Le Bihan, and Lionel Pichon, "Investigation of Inductive and Radiating Energy Harvesting for an Implanted Biotelemetry Antenna," in *Proc. European Conference on Antennas and Propagation (EuCAP)*, Paris, Mar. 2017.

(c_{14}) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, and Marc Biancheri-Astier, "Sub-GHz Inductive Power Transmission from Helical Coils for Implanted Medical Devices," in *Proc. IEEE International Workshop on Antenna Technology (iWAT)*, Athens, Greece, Mar. 2017.

(c_{15}) **Quang-Trung Luu**, Duc-Hung Tran, Bao-Huy Nguyen, Yem Vu-Van, and Cao-Minh Ta, "Design of the Resonators for Coupled Magnetic Resonance based Wireless Power Transmission Systems," in *Proc. 2nd Vietnam Conference on Control and Automation (VCCA)*, Da Nang, pp. 724-729, Nov. 2013.

Workshops/Posters

(w_1) Kim-Hoan Do, **Quang-Trung Luu**, Tai-Hung Nguyen, Minh-Thanh Nguyen, and Tuan-Anh Do, "Accelerating Network Slice Embedding with Reinforcement and Deep Reinforcement Learning," *18th Asian Internet Engineering Conference (ACM AINTEC)*, Hanoi, Dec. 2023 (Best Poster Award).

(w_2) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, "Resource Provisioning for Network Slices with Coverage Constraints," *ANR MAESTRO-5G Workshop on Orchestration of 5G Networks and Beyond*, CentraleSupélec, Gif-sur-Yvette, Dec. 2020.

(w_3) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, M. Biancheri-Astier, "RF Link for Implanted Medical Devices (IMDs) and Sub-GHz Inductive Power Transmission," in *Journées d'Etude sur la Télésanté (JetSan)*, 6ème édition, Bourges, France, May 2017.