Quang-Trung Luu

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ACADEMIC EXPERIENCES

2023–pres.	**Lecturer (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*, France
Thesis : *Dynamic Control and Optimization of Wireless Virtual Networks*
Industrial Ph.D program financed by French government (ANRT) and Nokia Bell Labs
Advisors : Prof. Michel Kieffer (Paris-Saclay) and Dr. Sylvaine Kerboeuf (Nokia Bell Labs)
Prize : Best PhD Dissertation on Distributed Systems and Networks, by GDR-RSD & ACM SigOps

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

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

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

INVOLVED PROJECTS

1. **Enhancing the performance of 6G Open RAN integrating edge computing and network slicing**. Funded by Vietnamese National Foundation for Science & Technology Development (NAFOSTED) ($XX,XXX, 2024 - 2026). Role : Senior member

2. **Optimizing resouce allocation for O-RAN slices in next-generation communication systems**. Funded by Hanoi University of Science and Technology ($11,500, Nov. 2023 - Oct. 2025). Role : Principal investigator

3. **Machine learning for typhoon formation prediction**. Funded by VinIF Foundation ($166,000, Oct. 2023 - Oct. 2026). Role : Senior member

4. **Management of slices in the radio access of 5G networks (ANR MAESTRO-5G)**. Funded by French National Research Agency—ANR (€818,398, Jan. 2019 - Jan. 2022). Role : Junior member (Ph.D student)

Supervision

Doctoral Students

1. **Thanh Pham** (*Hanoi University of Science and Technology*, 05/2024–present, co-advised with Prof. Trung-Kien Dao). Topic : Fault-tolerant algorithm for distributed mutual exclusion (mutex).

2. **Truong Tuan Vu** (*VinUniversity*, 03/2023–present, co-advised with Prof. Van-Dinh Nguyen). Topic : Resouce allocation for network slicing in open radio access network (O-RAN).

3. **Nguyen Minh Tuong** (*VinUniversity*, 03/2023–present, co-advised with Prof. Van-Dinh Nguyen). Topic : Resource allocation for serverless functions in mobile edge cloud environments

Master's Students

1. **Xavier Goeman and Carlos Guzman** (*Institut Polytechnique de Paris*, 11/2020–04/2021). Topic : Modeling and implementation of embedding algorithms for network slices dedicated to multimedia services.

2. **Jobayer Morshed and Abdel Ouahd Alouane** (*Institut Polytechnique de Paris*, 11/2021–04/2022). Topic : Scheduling coflows in datacenter networks.

Teaching

1. **Fundamentals of data communication** (ET4070), *Hanoi University of Science and Technology* . . . . Spring 2024
2. **Multimedia data compression** & **coding** (ET4262E), *Hanoi University of Science and Technology* . . . . Spring 2024
3. **Technical writing** & **presentation** (ET2022), *Hanoi University of Science and Technology* . . . . Spring 2024
4. **Computer security** (CS4451), *HUST and Troy University* (AL, US), ... Spring 2024
5. **Multimedia** (AC4010), *Hanoi University of Science and Technology* . . . . Fall 2023
6. **Virtual** & **augmented reality** (AC4010/4020), *Hanoi University of Science and Technology* . . . . Fall 2023
7. **Foundations of computer science** (CS3310), *HUST and Troy University* (AL, US) . . . . Fall 2023
8. **Computer network** & **communications** (CSE3030), *Vietnam-Japan University* . . . . Fall 2023

Honors, Awards, and Grants

Dec. 2023	**Travel Grant and Best Poster Award**, Asian Internet Engineering Conference (AINTEC)
May 2022	**Best PhD Thesis Award 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)
Programming :	Python, MATLAB, C/C++, Bash scrips
Tools :	git, ns-3, CPLEX, Jupyter notebook, Microsoft Office, LaTeX, InkScape
Libraries :	matplotlib, NumPy, TensorFlow, Pandas, scikit-learn, NetworkX
Languages :	*Vietnamese* (mother tongue), *English* (fluent), *French* (fluent)

ACTIVITIES

Technical program Committee member for conferences :

Symposium On Information and Communication Technology (SoICT)

International Conference on Networks (ICN)

IEEE International Conference on Communications and Electronics (ICCE)

Regular reviewer for journals

IEEE Journal on Selected Areas in Communications (JSAC)

IEEE/ACM Transactions on Networking (TON)

IEEE Transactions on Network and Service Management (TNSM)

IEEE System Journal (ISJ)

IEEE Communications Letters

Elsevier Computer Communications

Regular reviewer for conferences

IEEE International Conference on Communications (ICC)

IEEE Vehicular Technology Conference (VTC)

IEEE International Conference on Advanced Technologies for Communications (ATC)

Other activities

Organizer, *Vietnam Summer School of Science (VSSS)*, Quy Nhon, Vietnam . . . . Aug. 2023

Organizer**,** *Global Young Vietnamese Scholars Network*, Hanoi, Vietnam . . . . Nov. 2020

Founder & admin, telecom-vn—a group of Vietnamese researchers in networking and telecoms . . . May 2020

Jury member, *Annual Ph.D Student Workshop of CentraleSupélec* (session "AI and networking") . . . . . Sept. 2020

Invited lecturer, *Vietnam Summer School of Science (VSSS)*, Hanoi, Vietnam . . . . Aug. 2015

PUBLICATIONS

Google Scholar profile : https://scholar.google.com/citations?user=GqQcLAIAAAAJ

Patents

(b_1) S. Kerboeuf, Q.-T. Luu, M. Kieffer, and A. 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.

Peer-reviewed journal papers

(j_1) R. El-Azouzi, F. De Pellegrini, A. Arfaoui, C. Richier, J. Leguay, Q.-T. Luu, Y. Magnouche, and S. Martin, "Semi-distributed Coflow Scheduling in Datacenters," *submitted to IEEE Transactions on Network and Service Management*, 2024.

(j_2) O. Brun, R. El-Azouzi, Q.-T. Luu, F. De Pellergrini, B.-J. Prabhu, and C. Richier, "Weighted Scheduling of Time-Sensitive Coflows," *submitted to IEEE Transactions on Cloud Computing*, 2024 (arXiv:2303.17175)

(j_3) Q.-T. Luu, S. Kerboeuf, and M. Kieffer,"Admission Control and Resource Provisioning for Prioritized Slice Requests with Uncertainties," *IEEE Transactions on Network and Service Management*, 2022 (hal-03614028).

(j_4) Q.-T. Luu, S. Kerboeuf, and M. 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. (hal-03418308).

(j_5) Q.-T. Luu, M. Kieffer, A. Mouradian, and S. Kerboeuf, "Coverage-Aware Resource Provisioning Method for Network Slicing," in *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2393-2406, Dec. 2020. (hal-03097001).

Peer-reviewed conference papers

(c_1) Q.-T. Luu, O. Brun, R. El-Azouzi, F. De Pellergrini, and B.-J. Prabhu, "DCoflow: Deadline-Aware Scheduling Algorithm for Coflows in Datacenter Networks," *IFIP Networking Conference*, Catania, June 2022, pp. 1-9.

(c_2) Q.-T. Luu, S. Kerboeuf, and M. 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_3) Q.-T. Luu, S. Kerboeuf, A. Mouradian, and M. 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_4) Q.-T. Luu, M. Kieffer, and A. Mouradian, and S. 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_5) Q.-T. Luu, S. Koulouridis, A. Diet, Y. Le Bihan, and L. 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_6) A. Diet, S. Koulouridis, Y. Le Bihan, Q.-T. Luu, O. Meyer, L. Pichon, and M. 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.

Workshops/Posters

(w_1) K.-H. Do, Q.-T. Luu, T.-H. Nguyen, M.-T. Nguyen, and T.-A. Do, "Accelerating Network Slice Embedding with Reinforcement and Deep Reinforcement Learning," *18th Asian Internet Engineering Conference (ACM AINTEC)*, Hanoi, Dec. 2023.

(w_2) Q.-T. Luu, M. Kieffer, A. Mouradian, and S. 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.

Demonstrations

(d_1) B. Orlandi, S. Kerboeuf, F. Faucheux, J.-L. Lafragette, A. Boubendir, and Q.-T. Luu, "Network Slicing Made Easy! From Graph-based Design to Automated Deployment of Network Slices in 5G," *Nokia 5G Smart Campus Event*, Nozay, 2018 (in partnership with Orange Labs).

REFERENCES

Prof. Michel Kieffer
Paris-Saclay University
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Dr. Sylvaine Kerboeuf
Senior researcher, Nokia Bell Labs
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University of Avignon
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