Vo, Huynh Quang Nguyen (Lucius)

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Stillwater, Oklahoma, USA

EDUCATION

- **Oklahoma State University (OSU)** — *Expected August 2028*
  PhD, Industrial Engineering and Management, Minor in Statistics — Stillwater, Oklahoma, USA
  ◦ GPA: 3.780/4.0
  ◦ **Research:** Neuromorphic Computing; Parallel and Distributed Computing; Machine and Deep Learning; Optimization; Computational Statistics.

- **Aalto University** — *December 2020*
  MSc., Automation and Electrical Engineering, Minor in Data Science — Espoo, Finland
  ◦ GPA: 4.2/5.0 (Graduate with Honors)
  ◦ **Thesis:** Realization and Verification of Deep Learning Models for Fault Detection and Diagnosis of Photovoltaic Modules. Advisors: Simo Särkkä and Khuong Nguyen-Vinh.
  ◦ **Project:** Modelling and Control Methods in Renewable Energy Systems: The project focused on developing a feasible algorithm that enables photovoltaic systems to generate maximum power, specifically for application in short-haul electric vehicle charging stations. The project was funded by Fortum Oy, one of Finland's largest energy companies.

- **Metropolia University of Applied Sciences** — *April 2018*
  BTech, Electrical and Electronics Engineering, Minor in Cognitive Systems — Helsinki, Finland
  ◦ GPA: 4.26/5.0 (Graduate with Honors)
  ◦ **Thesis:** Safety System in Construction Industry: A protection system preventing fatal injuries by excavators in construction sites. Advisors: Matti Fisher and Jani Virtanen.
  ◦ **Project:** Indoor Air Quality Sensor Fusion: The project, which was a collaboration between Metropolia University of Applied Sciences (Finland) and Osnabrück Hochschule (Germany), focused on developing an indoor air quality monitoring system. The system was designed to detect air quality, transmit and display the data to users via a custom mobile application, and trigger integrated warnings when measurements exceeded predefined thresholds.

WORK EXPERIENCE

- **Argonne National Laboratory** — *June 2025 - September 2025*
  PhD Research Student Aide — Lemont, IL, USA
  ◦ Investigated the feasibility of several advanced algorithms, facilitated by the in-memory computing (IMC) framework, for power systems. Preliminary results were submitted and published as a conference paper for the SIAM Conference on Parallel Processing for Scientific Computing (PP24).

- **Intel Corp. (VNAT)** — *April 2021 - December 2022*
  Process and Equipment Engineer & Deep Learning Scientist — Saigon Hi-Tech Park, Ho Chi Minh City, Vietnam
  ◦ Led multiple in-house projects at VNAT focused on integrating deep learning technology for product inspection in downstream operations. Successfully completed in December 2022, these projects received recognition in Intel's Q4 2022 internal audit for their impactful contributions.
    ∗ **Intelligent Inspection and Automatic Disposition System (ILLIAD).** This project focused on developing a decentralized intelligent inspection system for material handling processes in downstream operations. Preliminary results validated the system's feasibility, drawing significant interest from multiple management levels at Intel Vietnam. The project was also showcased at the Intel 2023 AI Everywhere Conference as a leading example of AI innovation within Intel.

* **Applied Deep Learning on Inspection in Reel Packaging**. The project involved developing an automated inspection program capable of detecting packaging issues, such as out-of-pocket occurrences, and promptly alerting technicians or operators to take corrective action during the reel packaging process. The project was successfully completed and formally employed as a standard inspection practice.

◦ Curated tutorials and lead knowledge-sharing sessions on computer vision concepts for the Image Analytics Center of Excellence at Intel Ireland.

◦ Mentored Python programming and machine learning techniques within Intel's AI Everywhere Community, an initiative aimed at democratizing AI knowledge across the corporation.

◦ Managed communications and coordinated events for NextGen Vietnam, a regional subsidiary of Intel's NextGen Initiative focusing on integrating and developing employee competencies.

• **First Solar Corp. (Vietnam Branch)**   *November 2020 - March 2021*
Manufacturing Engineer Trainee   Dong Nam Industrial Park, Cu Chi, Vietnam

◦ Conducted a project that involved the development of a standardized electroluminescence image database and process monitoring software for fault detection and diagnosis in the laser scribing process for thin-film solar panels. The software is currently employed as a reference for troubleshooting across all of First Solar's factories.

◦ Organized technical sharing sessions on laser physics and optics in engineering, which were highly appreciated by 50+ attendees.

• **Metrology Research Institute (Aalto University)**   *March 2019 - December 2019*
Research Assistant   Espoo, Finland

◦ Assisted the research team on an EMPIR-funded project focused on the characterization and standardization of solar cell performance. The project was successfully completed, with results submitted and published as a conference paper for the Optics in Engineering Symposium (OIE2019) in the Optical Review journal by Springer.

• **Noiseless Acoustics Oy**   *March 2018 - November 2018*
Electronics Manufacturing and Test Engineer   Helsinki, Finland

◦ Developed testing modules for the NL Camera product and performed reliability analysis using the Failure Mode and Effects Analysis (FMEA) methodology. The modules and analysis were successfully implemented, significantly contributing to the product's reliability improvements.

◦ Implemented an Inventory Management System that streamlined tracking products across multiple stages and component stocks.

◦ Assisted in the production of the company's principal product, the NL Camera, enabling the company to meet its production quota and address growing market demand.

TEACHING EXPERIENCE

• **RMIT University Vietnam**   *Jan 2023*
Visiting Lecturer   Ho Chi Minh City, Vietnam

◦ **Lecture:** Optics/Optoelectronic Applications in Reality—How to make frames and infer people.

LEADERSHIP EXPERIENCE

• **Thesis Advisor**   *2022 - 2024*
Aalto University

◦ Truong, P. (2022). Crown-of-Thorns Starfish Detection by state-of-the-art YOLOv5.

◦ Nguyen, K. (2024). Image Similarity Assessment for Product Quality Assurance.

• **Vice President (VP) of INFORMS Student Chapters**   *Oct 2025 - now*
Oklahoma State University

HONORS AND AWARDS

- **SIAM Travel Awards** *2026*
  SIAM Conference on Parallel Processing for Scientific Computing (PP26)

- **Finalist, Student Paper Competition (Energy Division Track)** *2024 - 2025*
  IISE Annual Meetings 2024 & 2025
  ◦ Recognized for research contribution in the Energy Division track of the IISE Annual 2024 conference.

- **Dean's List** *2019 - 2020*
  Aalto University
  ◦ Awarded for outstanding academic performance during the 2019-2020 academic year.

- **Tutor of the Year** *2015 - 2016*
  Metropolia University of Applied Sciences
  ◦ Recognized for exceptional contributions as a student tutor.

# PUBLICATIONS
P=Preprint, B=Book Chapter, C=Conference, J=Journal

[C] **Huynh Q. N. Vo**, Md Tawsif Rahman Chowdhury, Paritosh Ramanan, Gozde Tutuncuoglu, Junchi Yang, Feng Qiu, and Murat Yildirim. (2025). **From GPUs to RRAMs: Distributed In-Memory Primal-Dual Hybrid Gradient Method for Solving Large-Scale Linear Optimization Problems.** In: *Proceedings of the 2026 SIAM Conference on Parallel Processing for Scientific Computing (PP26).*

[P] **Huynh Q. N. Vo**, Md Tawsif Rahman Chowdhury, Paritosh Ramanan, Murat Yildirim, and Gozde Tutuncuoglu. (2025). **Harnessing the Full Potential of RRAMs through Scalable and Distributed In-Memory Computing with Integrated Error Correction.** *arXiv preprint arXiv:2508.13298.*

[B] Nguyen-Vinh, K., **Vo-Huynh, QN.**, Nguyen-Minh, K., Hoang, M., Rangaraju, S. (2024). **Case Study: Utilizing Deep Learning Models for Fault Detection and Diagnosis of Photovoltaic Modules to Improve Solar Energy Constructions' O&M Activities Quality.** In: *Information Systems Research in Vietnam, Volume 2.* Springer, Singapore.

[C] H M Mohaimanul Islam, **Huynh Q. N. Vo**, Paritosh Ramanan. (2024). **SplitVAEs: Decentralized scenario generation from siloed data for stochastic optimization problems.** In *2024 IEEE International Conference on Big Data (IEEE BigData 2024).*

[C] Md T. R. Chowdhury, **H. Vo**, P. Ramanan, M. Yildirim, G. Tutuncuoglu (2024). **The Lynchpin of In-Memory Computing: A Benchmarking Framework for Vector-Matrix Multiplication in RRAMs.** In *2024 ACM International Conference on Neuromorphic Systems (ICONS 2024).*

[C] K. Nguyen-Vinh, **Q. Vo-Huynh**, M. Hoang and K. Nguyen-Minh. (2023). **Deep Learning Models for Fault Detection and Diagnosis in Photovoltaic Modules Manufacture.** In *IEEE Conference on Artificial Intelligence (CAI) 2023.* pp. 201-202.

[C] P. Kärhä, H. Baumgartner, J. Askola, K. Kylmänen, B. Oksanen, K. Maham, **H. Vo**, E. Ikonen. (2020). **Measurement setup for differential spectral responsivity of solar cells. The 13th Japan-Finland Joint Symposium on Optics in Engineering (OIE'19).** *Opt Rev 27,* 195–204 (2020).

PRESENTATIONS

- **Decentralized Importance Sampling in Variational Autoencoders for Industrial Scenario Generation** *2025*
  IISE Annual Conference & Expo 2025, Atlanta, GA, USA
- **Importance Sampling in Variational Autoencoders for Industrial Carbon Emissions Scenario Generation** *2024*
  INFORMS Annual Meeting 2024, Seattle, WA, USA