Nguyen Son

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Reseach Interests

○ Quantum Machine Learning
○ Graph Deep Learning
○ AI for the Sciences
○ Cheminformatics
○ Optimization
○ Mathematical Modelling

Education

Vietnam National University - Hanoi University of Science *2021 – 2025*
BS in Advanced Program of Chemistry

Samsung Innovational Campus - National Innovation Center *2024*
Artificia Intelligence

Reseach Experience

Quantum AI Laboratory *May 2025 – Present*
Phenikaa University

AI - Analytical Chemistry Laboratory *November 2023 – Present*
Vietnam National University - Hanoi University of Science

Natural Products Chemistry Laboratory *June 2023 – Present*
Vietnam National University - Hanoi University of Science

BioChemistry Laboratory - Institute of Natural Products Chemistry *June 2023 – March 2024*
Vietnam Academy of Science and Technology (VAST)

Computational Chemistry Laboratory *June 2022 – May 2023*
Vietnam National University - Hanoi Univerisity of Science

Teaching

Graduate Teaching Assistant

○ CH35 - Statistics and Applied Mathematics for Chemistry (2025).
○ CH34 - Chemometrics in Analytical Chemistry (2024).
○ CH34 - Statistics and Applied Mathematics for Chemistry (2024).
○ CH33 - Statistics and Applied Mathematics for Chemistry (2023).

Undergraduate Teaching Assistant

○ CHE2116 – Analytical Chemistry (2025).
○ CHE2129 – Advanced Analytical Chemistry (2025).
○ CHE2129 – Advanced Analytical Chemistry (2024).

Publications

2025

○ Anh Nguyen Thi Lan, Hung Nguyen Tran, Huong Nguyen Thu, Binh Khuat Hoang, Hung Khong Manh, Huong Pham Thu, Thanh Nguyen Chi, **Nguyen Manh Son** Thao Ta Thi. **"Simultaneous determination of Copper, Zinc and Nikel in Electroplating Waste water by UV-VIS Spectroscopy Combined with advanced Machine Learning and Deep Learning Models"**. International Journal of Advanced Engineering Research and Science. vol 12, no. 4, 2025.

○ Bui Thi Lan Phuong, Hoang Thi Bich, Nguyen Van Phuong, Bui An Duy, Nguyen Duc Phong, **Nguyen Manh Son**, Pham Gia Bach, Nguyen Thi Cam Ha, Ta Thi Thao, Nguyen Thi Kieu Anh. **"Geographical Discriminant and Classification of Cinnamomum cassia collected in Vietnam using ATR-FTIR coupled with machine learning algorithms"**. ChemChemTech. vol. 68, no. 8, 2025.

○ Nguyen Duc Phong, **Nguyen Manh Son**, Tran Phuong Dung, Pham Huu Vang, Nguyen Duc Hoan, Nguyen Huy Van, Dong Thi Thuy Linh, Nguyen Thi Van Anh, Vu Huong Thuy, Ta Thi Thao. **"Quality control of herbal medicine using IR fingerprint spectra combined with machine learning: A case study of Polyscias fruticosa (L.) Araliaceae."**. analytica Vietnam Conference, 2025.

- Nguyen Duc Thanh, **Nguyen Manh Son**, Nguyen Duc Phong, Hoang Tuan Phong, Ninh Duc Ha, Nguyen Thi Van Anh, Le Thi Hong Hao, Nguyen Thi Kim Thuong, Ta Thi Thao. **"Rapid detection of orange juice adulteration based on voltammetric fingerprint combined with machine learning."**. analytica Vietnam Conference, 2025.
- **Nguyen Manh Son**, Do Ngoc Thuy, Nguyen Thi Huong, Le Ngoc Hung, Phung Van Trung, Ta Thi Thao, Nguyen Dang Toan Chuong. **"UHPLC-QTOF-MS based metabolomics, cytotoxicity against HT29 cells and molecular docking study for Peliosanthes micrantha rhizomes"**. 5th International Conference on Applied Science and Engineering, 2025.

2024

- **Nguyen Manh Son**, Nguyen Duc Phong, Bui Xuan Thanh, Ta Thi Thao, Le Thi Hong Hao, Nguyen Duc Thanh. **"Applications of machine learning coupled with computer vision, electronic nose and untargeted analysis for food quality control"**. Vietnam Journal of Food Control. vol. 7, no. 3, pp. 313-328, 2024.
- Nguyen Duc Phong, **Nguyen Manh Son**, Nguyen Manh Ha, Bui Xuan Thanh, Le Thi Hong Hao, Ta Thi Thao, Nguyen Thi Van Anh, Nguyen Duc Thanh. **"Machine learning and deep learning models applied to identification and classification of mango"**. Vietnam Journal of Food Control. vol. 7. no. 3. 2024.
- Nguyen Duc Phong, **Nguyen Manh Son**, Nguyen Dieu Linh, Nguyen Thi Minh Loi, Bui Xuan Thanh, Pham Gia Bach, Le Si Hung, Ta Thi Thao. **"Multivariate regression models based on UV full spectra for the simultaneous determination of Tetracycline, Penicillin G and Cephalexin in different dosage forms"**. Journal of Analytical Sciences, vol. 30. no. 2. 2024.
- **Nguyen Manh Son**, Nguyen Duc Phong, Nguyen Quoc Hieu, Nguyen Van Dai, Tran Khanh Du, Vu Tien Dung, Ta Thi Thao, Bui Xuan Thanh, Nguyen Trong Hieu, Vu Duong, Nguyen Thi Van Anh, Nguyen Duc Thanh. **"Predicting Orange's Sweetness using Deep Learning Coupled with Computer Vision"**. International Food Control Conference, 2024.
- **Nguyen Manh Son**, Nguyen Duc Phong, Bui Xuan Thanh, Le Thi Hong Hao, Ta Thi Thao, Nguyen Duc Thanh. **"Applications of Machine Learning and Computer Vision Combined with Electronic Nose and Untargeted Analysis in Food Quality Control"**. International Food Control Conference, 2024.
- Nguyen Duc Phong, **Nguyen Manh Son**, Nguyen Manh Ha, Bui Xuan Thanh, Le Thi Hong Hao, Ta Thi Thao, Nguyen Thi Van Anh, Nguyen Duc Thanh. **"Machine learning and deep learning models applied to identification and classification of mango"**. International Food Control Conference, 2024.

Skills and Technologies

Languages: English, Korea.

Programming Languages: Python, R, Swift, Julia.

Framework: Pytorch, Tensorflow, Jax.

Embedded Systems/ IOT: Arduino, ESP32

Awards

- First Prize, National Poster Award, analytica conference, 2025.
- First Prize, Poster Presentation Award, International Food Control Conference, 2024.
- Consolation Prize, Poster Presentation Award, International Food Control Conference, 2024.
- Academic Encouragement Scholarship, 2024.
- Second Prize, Student Science Research Award 2024, Department level.
- Third Prize, Student Science Research Award 2024, School level.
- VietChem Schoolarship, 2024.
- Students Achieve Excellent Academic Results, 2023.
- Student with Five Good Merits, City level, 2023.
- Student with Five Good Merits, VNU level, 2023.
- Student with Five Good Merits, School level, 2023.
- Outstanding Student with Five Good Metrics, School level, 2023.
- Students Achieve Excellent Academic Results, 2022.
- Outstanding Young Person, School level, 2022.

Outeach Experience

- HUS Chemistry Club, VNU - Hanoi University of Science (Member of the board of directors)
- The Dilittles Project - The Animal Rescue Project
- International Language Club