

Nguyen Son

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Research Interests

- AI for the Sciences
- Graph Deep learning
- Computational Sciences
- Quantum Machine Learning
- Applied Mathematics

Education

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

Samsung Innovative Campus - National Innovation Center 2024
Artificial Intelligence

Research Experience

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

Natural Products Chemistry Laboratory June 2023 – June 2025
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 University 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

- Bui Thi Lan Phuong, Hoang Trung Tung, Do Khanh Linh, Nguyen Minh Tuan, Vu Hong Phuc, **Nguyen Manh Son**, Nguyen Thi Kieu Anh, Nguyen Van Phuong. **HPLC Profile-Based Chemometric Discrimination of Cinnamomum cassia By Geographic Origin**. Biomedical Chromatography, 2025.
- **Nguyen Manh Son**, Nguyen Thi Nhung, Vu Hoang Long, Nguyen Duc Phong, Nguyen Quoc Hieu, Nguyen Van Dai, Tran Khanh Du, Nguyen Manh Ha, Vu Duong, Vu Tien Dung, Ta Thi Thao. **Non-destructive analysis for predicting the sweetness of Vietnamese oranges using computer vision and deep learning**. International Conference on Agri-Food and Sustainable Development, 2025.
- Duc Phong Nguyen, **Nguyen Manh Son**, Phuong Dung Tran, Huu Vang Pham, Manh Ha Nguyen, Thi Thao Ta, Thi Thuy Linh Dong, Thi Van Anh Nguyen. **Classification of Polyscias fruticosa Samples Based on UV-Vis Spectra Using Machine Learning Algorithms**. The 8th National Metrology Conference, 2025.
- Duc Phong Nguyen, **Nguyen Manh Son**, Kieu Trang Nguyen, Huu Vang Pham, Duc Hoan Nguyen, Duc Thanh Nguyen, Manh Ha Nguyen, Thi Thao Ta. **Rapid and simultaneous analysis of Guaifenesin, Terbutaline sulfate and Sodium benzoate in cough medicine using UV spectroscopy in combination with Machine Learning**. The 8th National Metrology Conference, 2025.
- Manh Ha Nguyen, Thi Dung Nguyen, Thi Thao Ta, **Nguyen Manh Son**, Ngoc Dinh Dang. **Analysis of Mineral Content in Natural and Canned Orange Juice in Vietnam Using Atomic Absorption Spectroscopy**. The

8th National Metrology Conference, 2025.

- o 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.
- o 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.
- o 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.
- o 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.

2024

- o 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.
- o **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.
- o **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.
- o 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: Raspberry Pi, Arduino, ESP32.

Awards

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