



# Nguyen Hoang Viet

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## SUMMARY

My research lies at the intersection of mathematical theory and machine learning, with an emphasis on bridging theoretical rigor and practical impact. My recent research investigates parameter convergence behavior in Mixture-of-Experts models. I also explore machine learning solutions for real-world problems, particularly in quantum computing. My long-term goal is to advance statistical methodologies that strengthen the reliability and interpretability of machine learning systems.

## WORK EXPERIENCE

**Undergraduate Research Assistant | NetLab - HUST** Jul 2024 - Sep 2025

- Formulated the communication channel estimation problem using rigorous mathematical analysis and introduced an evolutionary algorithm to improve channel quality.
- Conducted research using the D-Wave quantum computer to solve multi-objective optimization problems via quantum annealing.

**Independent Researcher** Oct 2025 - present

- Focused on the theoretical analysis of Mixture-of-Experts models, with particular emphasis on parameter convergence rates.
- Proposed a new Vision Transformer-based model for quantum error correction tasks.

## EDUCATION

2019 - 2022 **High School for Gifted Students, Hanoi University of Science (HUS)** Vietnam  
High School Diploma (Specialized in Mathematics)

2022 - 2026 **Hanoi University of Science and Technology (HUST)** Hanoi, Vietnam  
(Expected) BSc in Computer Science (Talented Program) (CPA: 3.90/4.0 - top 1% of the cohort)

## ACHIEVEMENT

2020 Vietnam Mathematical Olympiad (Second Prize – ranked 13th)  
2023 Vietnam Math Competition for University student (First Prize – ranked 4th)  
2025 Vietnam Math Competition for University student (First Prize – ranked 8th)

## PUBLICATIONS

Trinh Van Chien, **Nguyen Hoang Viet**, Symeon Chatzinotas, and Lajos Hanzo (2025). “Improved Differential Evolution for Enhancing the Aggregated Channel Estimation of RIS-Aided Cell-Free Massive MIMO”. In: IEEE Transactions on Vehicular Technology 99, pp. 1–6.

## ENGLISH

IELTS Overall 7.0 (L – R – W – S: 6.5 – 8.5 – 7.0 – 6.0)