

# Duc-Cuong VU, BSc.

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## Education

### Master of Science in Automation and Control (Jul 2024 - present)

School of Electrical - Electronics Engineering,  
 Hanoi University of Science and Technology (HUST), Hanoi, Vietnam

- **Research project:** Design control structures for Parallel Platforms in Maritime applications
- **Funded by:** Master, PhD Scholarship Programme of Vingroup Innovation Foundation (VINIF)

### Bachelor of Science in Automation and Control (Oct 2020 - Mar 2024)

School of Electrical - Electronics Engineering,  
 Hanoi University of Science and Technology (HUST), Hanoi, Vietnam

- **Excellent degree,** GPA: 3.71/4. Finished the 4-year BSc program in **just 3.5 years.**
- **Ranking:** 27/499 in the same cohort.
- **Bachelor Thesis:** Balancing, motion planning, and tracking control for ballbot systems.  
 Thesis score: 9.9/10 - The best thesis defense

## Work Experience

### Research Assistant (Oct 2021 - present)

The Mechatronics Engineering Group,  
 School of Electrical - Electronic Engineering,  
 Hanoi University of Science and Technology (HUST), Hanoi, Vietnam

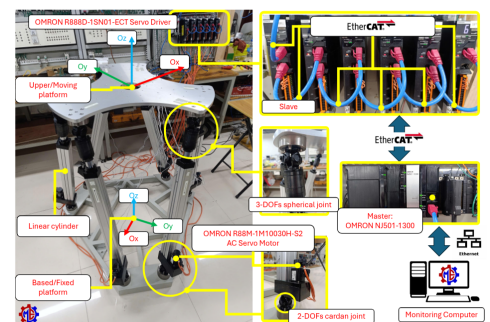
- **Research topics:** Automation, Control Design, Robotics, Multi-agent Systems, Modeling and Simulation, Experiment systems.
- **Supervisor:** Assoc.Prof.PhD. Tung Lam Nguyen ([lam.nguyentung \[at\] hust.edu.com](mailto:lam.nguyentung@hust.edu.vn)).
- **Skills acquired:** hardware design, numerical simulation and modeling, analysis, and interpretation of results, study conception, and design, draft manuscript preparation, ...

## Projects

### Member/Researcher (Mar 2025 - Dec 2025)

Advanced Control of a Ship-Mounted Stewart Platform for Marine Applications

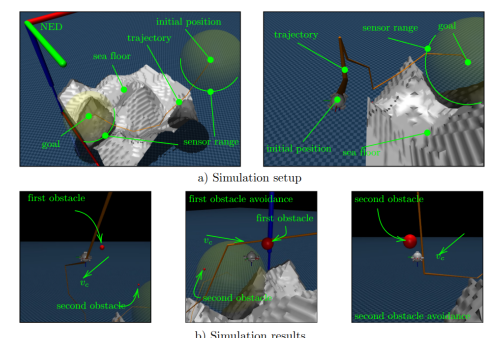
- Field: Marine Robotics and Control Systems.
- International Collaboration of Korea Institute of Science and Technology (KIST) and Institute for Control Engineering and Automation (ICEA, HUST).
- Supervisors: PhD. Minh Nhat Vu and Assoc.Prof.PhD. Tung Lam Nguyen



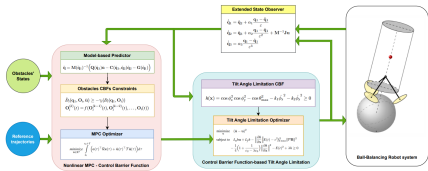
### Member/Researcher (Jan 2025 - Dec 2027)

Robot navigation system integrating sensor network and wireless communication

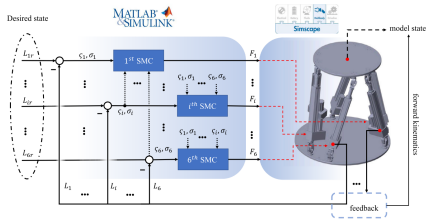
- Field: Robotics and Control systems.
- Funded by Hanoi University of Science and Technology.
- Supervisors: PhD. Duc Chinh Hoang and Assoc.Prof.PhD. Tung Lam Nguyen.



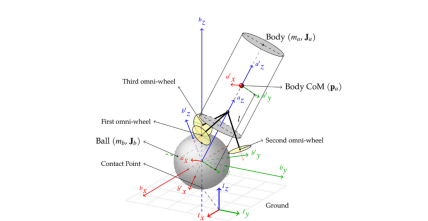
Highlighted Publications



**Journal** IEEE Access (ISI-Q2) (2025)  
CBFs-based Model Predictive Control for Obstacle Avoidance with Tilt Angle Limitation for Ball-Balancing Robots  
*Minh Duc Pham, Duc Cuong Vu, Thi Thuy Hang Nguyen, Thi Van Anh Nguyen, Minh Nhat Vu, and Tung Lam Nguyen*  
DOI: [10.1109/ACCESS.2025.3567474](https://doi.org/10.1109/ACCESS.2025.3567474)



**Journal** Results in Engineering (ISI-Q1) (2025)  
A novel approach of Consensus-based Finite-time Distributed Sliding Mode Control for Stewart platform manipulators motion tracking  
*Duc Cuong Vu, Danh Huy Nguyen, and Tung Lam Nguyen*  
DOI: [10.1016/j.rineng.2024.103872](https://doi.org/10.1016/j.rineng.2024.103872)



**Journal** International Journal of Robust and Nonlinear Control (ISI-Q1) (2024)  
Time-optimal trajectory generation and observer-based hierarchical sliding mode control for ballbots with system constraints  
*Duc Cuong Vu, Minh Duc Pham, Thi Thuy Hang Nguyen, Thi Van Anh Nguyen, and Tung Lam Nguyen*  
DOI: [10.1002/rnc.7358](https://doi.org/10.1002/rnc.7358)

Conferences

**IEEE 12th International Conference on Control, Automation and Information Sciences (IEEE ICCAIS 2023)**  
Hanoi, Vietnam

**2024 International Conference on Advanced Technologies for Communications (ATC2024)**  
Hanoi, Vietnam

**International Conference on Intelligent Systems and Networks (Springer ICISN 2023)**  
Hanoi, Vietnam

Honours & awards

**Master, PhD Scholarship Programme**  
Vingroup Innovation Foundation (VINIF)

**Best Thesis Defense Award**  
Hanoi University of Science and Technology