

# Van Chung Nguyen

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## EDUCATION

### Hanoi University of Science and Technology (HUST)

Sep 2019 – Sep 2023

*Science in Control and Automation Engineering (Talented Program)*

*HaNoi, Viet Nam*

- Ranked 1<sup>st</sup> in Vietnam in Electrical and Electronic Engineering by QS Rankings.
- CPA: 3.80/4.00 (9.5/10). Rank 2<sup>nd</sup>/31 students in the talented program<sup>1</sup>

### Bac Ninh Specialized High School

Aug 2016 – Jul 2019

*Specializing in Mathematics*

*BacNinh, Viet Nam*

## RESEARCH INTERESTS

- System modeling
- Nonlinear dynamical systems
- Nonlinear control
- Optimization
- Motion control and motion planning
- Robotics

## RESEARCH EXPERIENCE

### Mechatronics Engineering Group (HUST)

July 2021 – now

*Research Assistant, Advisor: Assoc. Prof. Nguyen Tung Lam*

*HaNoi, Viet Nam*

- Modeling the dynamic and controlling self-balancing vehicles.
- Modeling and proposing advanced algorithms in motion planning as well as automatic controlling for crane systems.
- Conducting experiments on optimal control methods on crane systems.
- Proposing advanced control techniques and disturbances compensation mechanisms for dual-arm manipulators.
- Modeling, simulating, proposing control algorithms, and motion planning for autonomous vehicles (based on CarSim and TruckSim)

### Optimization and Applications in Engineering Laboratory (HUST)

Feb 2022 – Jan 2023

*Undergraduate research assistant, Advisor: Assoc. Prof. Dao Phuong Nam*

*HaNoi, VietNam*

- Learning and conducting research on nonlinear systems.
- Learning and conducting research on Optimization Control and Formation control for Unmanned Surface Vehicles.

## PUBLICATIONS

- **Van Chung Nguyen**, Hue Luu Thi, Tung Lam Nguyen "A Lyapunov-based model predictive control strategy with a disturbances compensation mechanism for dual-arm manipulators" [**European Journal of Control**].
- **Van Chung Nguyen**, Hue Luu Thi, Tung Lam Nguyen "Adaptive finite-time extended state observer-based model predictive control with Flatness motivated trajectory planning for 5-DOF tower cranes" [**Under review - Journal of the Franklin Institute**].
- **Van Chung Nguyen**, Hue Luu Thi, Dai Pham Duc, Hoa Bui Thi Khanh, Danh Huy Nguyen, Tung Lam Nguyen "An integrated solution for 3D Overhead Cranes: Time-optimal motion planning, Obstacle avoidance, and Anti-swing." [**Under review - Control Engineering Practice**].
- Thu Ha Nguyen, **Van Chung Nguyen**, Dang Quang Bui, Phuong Nam Dao "An Efficient Min/Max Robust Model Predictive Control for Nonlinear Discrete-Time Systems with Dynamic Disturbance" [**Under review - Chaos, Solitons & Fractals**].

<sup>1</sup>An undergraduate program for approximately top 150 students in five majors

- **Van Chung Nguyen**, Hue Luu Thi, Tung Lam Nguyen "Adaptive Finite-Time Extended State Observer for Varying Rope Length Tower Cranes" [ **International Conference on Control, Automation and Information Sciences (ICCAIS 2023)**].
- Other publications can be found in: <https://scholar.google.com/citations?user=KC1gpwkAAAAJ&hl=en>

## HONORS AND AWARDS

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<b>Best undergraduate graduation thesis award</b>	<b>2023</b>
<i>Awarded by School of Electrical &amp; Electronic Engineering, HUST</i>	
<b>Honda Award for Young Engineer and Scientist</b>	<b>2022</b>
<i>Awarded by Honda Foundation for outstanding Young Engineer and Scientist in VietNam</i>	
<b>The bronze medal at the Math competition of Coastal and Northern Delta in VietNam</b>	<b>2019</b>
<i>Math competition for specialized high schools in northern Vietnam</i>	

## RELATED SKILLS

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**Programming skills or computer packages:** Matlab/Simulink, CarSim, TruckSim, GAMS, C/C++, Arduino Software (IDE), Gazebo.  
**Office Tools:** LaTeX, Microsoft Word, Microsoft PowerPoint.

## REFERENCE

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**Assoc. Prof. Dr. Nguyen Tung Lam**

Department of Automation

School of Electrical & Electronic Engineering, HUST

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**Assoc. Prof. Dr. Dao Phuong Nam**

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