Viet-Anh Le

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Education

Hanoi University of Science and Technology — Hanoi, Vietnam
B.S in Automation and Control Engineering (Talented Program), GPA: 3.44/4.00 — 2014–2019

- Thesis: "Control methods for uncertain two-wheeled self-balancing mobile robots using Adaptive Dynamic Programming"

Professional Experience

Northern Arizona University — Flagstaff, AZ, USA
Graduate Research Assistant at School of Informatics, Computing and Cyber Systems — 2019 –Present

- Gaussian Process based Distributed Model Predictive Control for Multi-agent Systems
- Flagstaff's F1/10 Robo-Racing Project

Vietnam Maritime University — Hai Phong, Vietnam
Research Intern at School of Mechanical Engineering — 2017 –2019

- Robust adaptive control of shipboard container cranes using MRAC and neural networks
- Research, design and manufacture of the model of floating cranes for loading and unloading containers at Vietnam's seaports

Publications

[1] **V.-A. Le** and T. X. Nghiem, "Gaussian process based distributed model predictive control for multi-agent systems using sequential convex programming and admm", in *2020 IEEE Conference on Control Technology and Applications (CCTA)*, IEEE, 2020, pp. 31–36.

[2] H. X. Le, **V.-A. Le**, and L. Nguyen, "Adaptive fuzzy observer based hierarchical sliding mode control for uncertain 2d overhead cranes", *Cyber-Physical Systems*, vol. 5, no. 3, pp. 191–208, 2019.

[3] **V.-A. Le**, H.-X. Le, L. Nguyen, and M.-X. Phan, "An efficient adaptive hierarchical sliding mode control strategy using neural networks for 3d overhead cranes", *International Journal of Automation and Computing*, vol. 16, no. 5, pp. 614–627, 2019.

[4] T. X. Nghiem, T.-D. Nguyen, and **V.-A. Le**, "Fast gaussian process based model predictive control with uncertainty propagation", in *2019 57th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, IEEE, 2019, pp. 1052–1059.

[5] V. T. Nguyen, T. K. D. Ha, **V.-A. Le**, T. D. Pham, H. T. Vo, and Q. T. Pham, "Modeling and integral hierarchical sliding-mode control for 2d ship-mounted crane", in *2019 First International Symposium on Instrumentation, Control, Artificial Intelligence, and Robotics (ICA-SYMP)*, IEEE, 2019, pp. 82–85.

[6] A. T. Le, M. C. Hoang, V. T. Pham, C. N. Luong, D. T. Vu, and **V.-A. Le**, "Adaptive neural network sliding mode control of shipboard container cranes considering actuator backlash", *Mechanical Systems and Signal Processing*, vol. 112, pp. 233–250, 2018.

[7] **V.-A. Le**, X. H. Le, D. T. Vu, V. T. Pham, A. T. Le, and M. C. Hoang, "Designing an adaptive controller for 3d overhead cranes using hierarchical sliding mode and neural network", in *2018 International Conference on System Science and Engineering (ICSSE)*, IEEE, 2018, pp. 1–6.

Research Interest

- Distributed Model Predictive Control for Multi-agent Systems
- Machine Learning based Control
- Robotics and Autonomous Systems

Skills

- **Programming languages:** Python, Julia, C/C++, MATLAB, R.
- **Tools:** Git, LaTex, Robot Operating System (ROS).

Scholarships and Awards

- Student Travel Award by the IEEE Control Systems Society (CSS) to attend the 2020 IEEE Conference on Control Technology and Applications (CCTA)
- NAU's Presidential Fellowship award for PhD students (each year, only 10 top outstanding incoming PhD students at NAU are awarded)
- Odon Vallet's Scholarship (established by Prof. Odon Vallet from France's Sorbonne University) for Excellent Undergraduate Students in 2018
- Conference Travel Award by the Vietnam's National Foundation for Science and Technology Development (NAFOSTED) to attend the 2018 IEEE Conference on System Science and Engineering (ICSSE)
- Gold Medal in the Vietnam's National Mathematical Olympiad for Undergraduate Students in 2015

References

- Dr. Truong Xuan Nghiem
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  Email: truong.nghiem@nau.edu
- Dr. Xuan-Minh Phan
  Professor, Department of Automatic Control, Hanoi University of Science and Technology, Vietnam
  Email: minh.phanxuan@hust.edu.vn
- Dr. Anh-Tuan Le
  Associate Professor, School of Mechanical Engineering, Vietnam Maritime University, Vietnam
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