Vuong V. Trinh

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http://trinhvv.github.io

Experience

Doctoral Candidate, Commissariat à l'énergie atomique et aux énergies alternatives 2014–2017
Supervised by Mazen Alamir and Patrick Bonnay on cryogenics, funded by CRYOGREEN

- Develop constrained explicit nonlinear control schemes using robust regression and kernel methods
- Develop constrained hierarchical distributed control schemes based on numerical optimization (derivative free and bundle methods) leveraging fixed-point iterations

Research Intern, Grenoble Images Parole Signal Automatique laboratoire Jan–Jun 2014
Supervised by Ioan D. Landau and Luc Dugard on active vibration control

- Develop reduced-order feedforward and feedback active vibration control schemes leveraging system identification, Youla-Kucera parametrization and $\mathcal{H}_\infty$ control synthesis with experimental validation
- Laboratory instructor and poster presentator for the adaptive control course at EECI IGSC 2016

Education

Ph.D. Control & Optimization, Communauté Université Grenoble Alpes (exp.) 2018

M.S. Automation & Control, Université Joseph Fourier & Institut Polytechnique de Grenoble 2014

B.S. Automation & Control (ELITECH), Hanoi University of Science and Technology 2012

Services

Adjunct Researcher, Dong A University Research Institute since 2017

- Collaborate with Phuc K. Tran, Tuan A. Mai and Huong T. Truong on anomaly detection
- Collaborate with Hyeong Joon Ahn and Canh D. Nguyen on motion control of linear motors

Organization Team, Junior Scientist and Industry annual meeting Mar 2016

Awards

Excellence master fellowship, PERSYVAL-Lab 2013

Vallet scholarship, Rencontres du Vietnam 2008

Double prize in physics (1st) and maths (cons), Vietnam Mathematics & Youth Magazine 2005

Valorisation

MOOC HarvardX CS50, edX (verified cert.) Feb 2018

Project-based Research Week, SEMIE Oct 2016

Competences

Languages Vietnamese (*native*), English (*limited working proficiency*, IELTS 6.5), French (*basic*)

Techniques Matlab, C/C++, Python, CPLEX, git, heroku, LaTeX, Inkscape, Siemens S7, STM32

Publications

[1] M. Alamir, P. Bonnay, F. Bonne and V. V. Trinh. Fixed-point based hierarchical MPC control design for a cryogenic refrigerator. *Journal of Process Control*, 58:117–130, 2017. doi: 10.1016/j.jprocont.2017.09.006

[2] V. V. Trinh, M. Alamir, P. Bonnay and F. Bonne. Explicit model predictive control via nonlinear piecewise approximations. In: *Proc. 10th IFAC Symposium on Nonlinear Control Systems*, Monterey, CA, USA, 2016. doi: 10.1016/j.ifacol.2016.10.173

[3] M. Alamir, V. V. Trinh and P. Bonnay. On the stabilization of fixed-point iterations arising in hierarchical control design. In: *Proc. 20th IFAC World Congress*, Toulouse, France, 2017. doi: 10.1016/j.ifacol.2017.08.1363