Vuong V. Trinh

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https://vuongvtrinh.github.io

Experience

Research Scientist, **Dong A University Research Institute** since Jan 2019
- Develop kernel-based anomaly detection algorithms with application to sensor networks.

Software Engineer, **Benjamin Muyl Design S.A.** Sep–Dec 2018
- Develop scientific software for computation and optimization of sailing yachts via symbolic framework,
- Familiar with Python, CasADi, bash, version control and unit-testing.

Research Engineer, **Commissariat à l'Énergie Atomique et aux Énergies Alternatives** 2014–2017
Supervisors: M. Mazen Alamir and M. Patrick Bonnay, funded by the project ANR CryoGreen.
- Develop explicit constrained control via nonlinear regression and reduced-set support vector machines,
- Develop hierarchical control coordination via derivative-free optimization and fixed-point iterations,
- Familiar with Matlab, C, LaTeX and Inkscape, cryogenic processes with PLC, SCADA and Modbus.

Research Intern, **Grenoble Images Parole Signal Automatique Laboratoire** Jan–May 2014
Supervisors: M. Ioan D. Landau and M. Luc Dugard, on robust active vibration control.
- Perform system identification, robust control design and experiments using Matlab and xPC Target,
- Laboratory instructor for the adaptive control course at EECI IGSC'14.

Industrial Intern, **Yazaki Haiphong Vietnam** Apr 2011
- Analyse customer specifications, present technical solution, train operators, deliver bill-of-materials,
- Design, set up and program PLC / HMI / inverter using AutoCAD, Step7 and WinCC.

Education

M.S. Automation & Control, Université Joseph Fourier & Institut Polytechnique de Grenoble 2014
Mention: good | GPA: 15/20

B.S. Automation & Control, Hanoi University of Science and Technology 2012
Mention: good (*Talented Engineer's Program*) | GPA: 3.17/4.00

Awards

Excellence Master Fellowship, LabEx PERSYVAL-Lab 2013

Vallet Scholarship for excellent academic performance, Rencontres du Vietnam 2008

Valorisation

CS50's Introduction to Computer Science Course Certification, Harvard University via edX

Six Sigma and Lean Processional Program Certification, Technische Universität München via edX

TUM Lean Six Sigma Yellow Belt Certification, Technische Universität München

Languages

Vietnamese (*native*) | English (*fluent*: IELTS 6.5) | French (*basic*)

Volunteer

Organization Team, **Junior Scientist and Industries Annual Meeting** Mar 2016

Community Analyst, **Quantitative Analytics and Trading Strategies of Cryptoassets** May 2018
Research: data-driven analytics of blockchain projects and quantitative trading for crypto-market
Technology: Python (*Flask, Pandas, Dash, Tkinter*) | AWS (*RDS, EC2*) | Heroku (*Postgres*) | SQL

PUBLICATIONS

V. V. Trinh, M. Alamir, P. Bonnay and F. Bonne, **Explicit model predictive control via nonlinear piecewise approximations**, in *Proceedings of the 10th IFAC Symposium in Nonlinear Control Systems*, Monterey, CA, USA, 2016.

M. Alamir, V. V. Trinh and P. Bonnay, **On the stabilization of fixed-point iterations arising in hierarchical control design**, in *Proceedings of the 20th IFAC World Congress*, Toulouse, France, 2017.

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*, vol. 58, no. Supplement C, pp. 117-130, 2017.

V. V. Trinh, K. P. Tran and A. T. Mai, **Anomaly detection in wireless sensor networks via support vector data description with Mahalanobis kernels and discriminative adjustment**, in *Proceedings of the 2017 4th NAFOSTED Conference on Information and Computer Science*, Hanoi, Vietnam, 2017.

V. V. Trinh, K. P. Tran and T. H. Truong, **Data driven hyperparameter optimization of one-class support vector machines for anomaly detection in wireless sensor networks**, in *Proceedings of the 2017 International Conference on Advanced Technologies for Communications*, Quy Nhon, Vietnam, 2017.