Vuong V. Trinh

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https://vuongvtrinh.github.io

Experience

Research Scientist, **Dong A University Research Institute** since Jul 2018
- Develop anomaly detection algorithms application to sensor networks and production.

Software Engineer, **Benjamin Muyl Design S.A.** Jan–Jun 2018
- Develop symbolic computing software for simulation, optimization and control of sailing yachts,
- Familiar with Python, SQL, CasADi 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

Double Prize in Physics (1st) and Maths (cons), Vietnam Mathematics & Youth Magazine 2005

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*)

Software

Blockchain and Cryptoasset Analytics [WebApp] [ChatBot]
Research: aggregated data viz, statistical analytics and quantitative algorithmic trading for crypto-market
Technology: Python (*Flask, Pandas, Dash*) | AWS (*RDS, EC2*) | Heroku (*Postgres*)

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, 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.

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.

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.