Vuong V. Trinh

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Experience

R&D Freelancer, **Benjamin Muyl Design Sarl** Sep–Dec 2018
- Develop scientific software for computation and optimization of sailing yachts for racing competitions;
- Deploy Python (*CasADi*), version management (*Git*) and production tools (*bash, unit tests*).

Research Engineer, **Commissariat à l'Énergie Atomique et aux Énergies Alternatives** 2014–2017
Supervisors: M. Mazen Alamir and M. Patrick Bonnay, on process control and energetic optimization.
- 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;
- Modelling and control of cryogenic refrigerator and compression station (coldbox, valve, compressors);
- Intensive use of Matlab (*CPLEX, ACADOtoolkit*) and C; PLC (*Schneider*), 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 analysis and control.
- Perform system identification, robust control design and experiments using Matlab and xPC Target;
- Laboratory instructor and teaching assistant for the adaptive control course at EECI IGSC'14.

Industrial Intern, **Yazaki Corporation** Apr–Aug 2011
- Analyse customer specifications, present technical solution, train operators, deliver bill-of-materials;
- Setup control box, relays and inverters; program PLC and HMI; use AutoCAD, Step7 and WinCC.

Education

M.S. Automation & Control Engineering, Université Joseph Fourier & Grenoble INP 2013–2014
Mention: *good* (*MiSCIT Program*) | GPA: 15/20 | Rank: 3/18

B.S. Automation & Control Engineering, Hanoi University of Science and Technology 2007–2012
Mention: *good* (*Talented Engineer's Program*) | GPA: 3.17/4.00

Valorisation

CS50's Introduction to Computer Science, Harvard University | edX

Six Sigma and Lean Processional Program, Technische Universität München | edX

TUM Lean Six Sigma Yellow Belt, Technische Universität München | TUM School of Management

Semaine d'Étude Maths-Info Entreprises, Agence Maths Entreprises

Languages

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

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 2007

Services

Adjunct Researcher, **Dong A University Research Institute** since Mar 2019
- Develop real-time anomaly detection algorithms for industrial Big Data, particularly sensor networks;
- Develop quantitative analytics and algorithmic trading strategies, particularly for crypto-market;
- Familiar with Python (*Flask, Pandas, TensorFlow*), JS (*Highcharts*), Heroku (*Postgres*), AWS (*RDS*).

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

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.