Vuong V. Trinh

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EXPERIENCE	**Software Engineer**, **Benjamin Muyl Design Sarl**	Sep–Dec 2018

- Contribute to scientific software *Meta* for simulation, analysis and optimization of yachts with sail or hybrid propulsion systems, for use in decision-making by naval architects, boatbuilders and operators;
- Deploy Python (*CasADi*), version management (*Git*), production tools (*Bash*) and unit-tests.

Research Engineer, **Commissariat à l'Énergie Atomique et aux Énergies Alternatives**　2014–2017

Supervisors: Mazen Alamir and Patrick Bonnay, on cryogenic process control and energetic optimization.

- Develop advanced control strategies including explicit constrained control and hierarchical distributed coordination, using machine learning, dynamic optimization and numerical algorithms;
- Dynamic simulation of compression stations and cryogenic refrigerators using *Simcryogenics*; involve in experiments with station 400W 1.8K at SBT and 18kW 4.5K LHC facilities at CERN;
- Intensive use of Matlab and C (*CPLEX, ACADOtoolkit*); familiar with PLC (*Siemens, Schneider*), SCADA and Modbus; cold-box, valve, compressor and thermodynamics.

Research Intern, **Grenoble Images Parole Signal Automatique Laboratoire**　Jan–May 2014

Supervisors: Ioan D. Landau and 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 solutions, train operators, deliver BOMs;
- Setup control box, relays and inverters; program PLC and HMI; deploy 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

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

- Work with Kim-Phuc Tran on real-time anomaly detection algorithms for industrial Big Data;
- Familiar with Python (*Flask, Pandas*), JS (*Highcharts*), Heroku (*Postgres*), AWS (*RDS*).

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

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

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 | ANSYS OPTIS

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.

REFERENCES **Kim-Phuc Tran** *Associate Professor in Automation and Industrial Informatics*
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Phone: +33 (0)3 20 25 89 60 2 allée Louise et Victor Champier, 59056 Roubaix, France

MISC **Personal Info:** Gender: Male | Marital status: Single | DOB: 20 Dec 1989 | POB: Thanh Hoa (Vietnam)
Interests: Hiking | Ping-pong