# Vuong V. Trinh

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## Experience

**Adjunct Researcher**, **Dong A University Research Institute** Da Nang, Mar–Sep 2019

- Work with Kim-Phuc Tran on real-time anomaly detection algorithms for industrial Big Data;
- Familiar with Python (*Flask, Pandas, Scikit-Learn*), JS (*Highcharts*), Heroku (*Postgres*), AWS (*RDS, EC2*); editting tools (*TeX, Inkscape*); embedded systems (*Rasp Pi, STM32*).

**R&D Engineer**, **Benjamin Muyl Design Sarl** Brittany, Sep–Dec 2018

- Work with Benjamin Muyl and Antoine Guillou on simulation and optimization of sail yachts;
- Contribute to project *Meta* by upgrading from Java and Matlab to Python using symbolic framework;
- Deploy Python (*CasADi*), version management (*Git*), production tools (*Bash*) and unit-tests.

**R&D Engineer**, **French Alternative Energies and Atomic Energy Commission** Grenoble, 2014–2017

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

- Develop advanced control strategies including explicit constrained control and hierarchical distributed coordination, combining machine learning, dynamic optimization and numerical algorithms;
- Dynamic model and 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; technology know-how (cold-box, valve, compressor, sensors).

**Research Intern**, **Grenoble Images Parole Signal Automatique Laboratoire** Grenoble, 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** Hai Phong, Apr–Aug 2011

- Analyse specifications and present technical solution for automotive wire production conveyors;
- 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

## 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.

## Services

**Organization Team of JSIam**, Grenoble Innovation for Advanced New Technologies — Mar 2016

## References

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## Misc

**Personal Info:** Gender: Male | Marital status: Single | DOB: 20 Dec 1989 | POB: Thanh Hoa (Vietnam)

**Professions:** Industrial Automation | Process Control & Optimization | Data Analytics

**Interests:** Hiking | Ping-pong | Reading