# Vuong V. Trinh

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https://vuongvtrinh.github.io

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

**Software Engineer**, **Benjamin Muyl Design Sarl**          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 (*CPLEX, NLopt, ACADO*), C, LaTeX and Inkscape, 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**          Apr 2011
- Analyse customer specifications, present technical solution, train operators, deliver bill-of-materials,
- Design, set up and program PLC, HMI and 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*)

SERVICES  **Organization Team**, **Junior Scientist and Industries Annual Meeting**          Mar 2016
**Community Analyst**, **Blockchain & Cryptoasset Quantitative Analytics**          May 2018
Research: data-driven analytics of blockchain projects and quantitative trading strategies for crypto-market
Technology: Python (*Flask, Django, Pandas*) | JS (*Highcharts*) | Heroku (*Postgres*) | AWS (*RDS, EC2*)

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.