

# Vuong V. Trinh

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EXPERIENCE	<b>Software Development Freelance, Benjamin Muyl Design Sarl</b> Sep–Dec 2018 <ul style="list-style-type: none"><li>• Develop scientific software for computation and optimization of sailing yachts via symbolic framework,</li><li>• Familiar with Python (<i>CasADi</i>), version control (<i>Git</i>), bash and unit-testing.</li></ul> <b>Research Engineer, Commissariat à l'Énergie Atomique et aux Énergies Alternatives</b> 2014–2017 Supervisors: M. Mazen Alamir and M. Patrick Bonnay, on process control and energetic optimization. <ul style="list-style-type: none"><li>• Develop explicit constrained control via nonlinear regression and reduced-set support vector machines,</li><li>• Develop hierarchical control coordination via derivative-free optimization and fixed-point iterations,</li><li>• Modelling and control of cryogenic refrigerator and compression station (cold-box, valve, compressors)</li><li>• Intensive use of Matlab (<i>CPLEX</i>, <i>ACADOtoolkit</i>) and C; PLC (<i>Schneider</i>), SCADA and Modbus.</li></ul> <b>Graduate Research Intern, Grenoble Images Parole Signal Automatique Laboratoire</b> Jan–May 2014 Supervisors: M. Ioan D. Landau and M. Luc Dugard, on robust active vibration analysis and control. <ul style="list-style-type: none"><li>• Perform system identification, robust control design and experiments using Matlab and xPC Target,</li><li>• Laboratory instructor for the adaptive control course at EECI IGSC'14.</li></ul> <b>Industrial Automation Intern, Yazaki Corporation</b> Apr–Aug 2011 <ul style="list-style-type: none"><li>• Analyse customer specifications, present technical solution, train operators, deliver bill-of-materials,</li><li>• Setup control box, relays and inverters; program PLC and HMI; use AutoCAD, Step7 and WinCC.</li></ul>
EDUCATION	<b>M.S. Automation &amp; Control Engineering</b> , Université Joseph Fourier & Grenoble INP 2013–2014 Mention: <i>good (MiSCIT Program)</i>   GPA: 15/20   Rank: 3/18 <b>B.S. Automation &amp; Control Engineering</b> , Hanoi University of Science and Technology 2007–2012 Mention: <i>good (Talented Engineer's Program)</i>   GPA: 3.17/4.00
VALORISATION	<b>CS50's Introduction to Computer Science</b> , Harvard University   edX <b>Six Sigma and Lean Processional Program</b> , Technische Universität München   edX <b>TUM Lean Six Sigma Yellow Belt</b> , Technische Universität München   TUM School of Management <b>Semaine d'Étude Maths-Info Entreprises</b> , Agence Maths Entreprises
LANGUAGES	Vietnamese ( <i>native</i> )   English ( <i>fluent: IELTS 6.5</i> )   French ( <i>basic</i> )
AWARDS	<b>Excellence Master Fellowship</b> , LabEx PERSYVAL-Lab 2013 <b>Vallet Scholarship for excellent academic performance</b> , Rencontres du Vietnam 2008 <b>Double Prize in Physics (1st) and Maths (cons)</b> , Vietnam Mathematics & Youth Magazine 2007
SERVICES	<b>Adjunct Researcher, Dong A University Research Institute</b> since Mar 2019 <ul style="list-style-type: none"><li>• Develop real-time anomaly detection algorithms for industrial Big Data, particularly sensor networks,</li><li>• Develop intelligent data-driven application to monitor blockchain projects and to analyze cryptoassets,</li><li>• Deploy Python (<i>Flask</i>, <i>Pandas</i>), JS (<i>Highcharts</i>), Heroku (<i>Postgres</i>), AWS (<i>RDS</i>).</li></ul> <b>Organization Team, Junior Scientist and Industries Annual Meeting</b> 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.