

# Vuong V. Trinh

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| EXPERIENCE   | <p><b>(Freelance) Software Engineer, Benjamin Muyl Design Sarl</b> Sep–Dec 2018</p> <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>, <i>Numpy</i>, <i>Scipy</i>), databases, bash, version control and unit-testing.</li></ul> <p><b>Research Engineer, Commissariat à l'Énergie Atomique et aux Énergies Alternatives</b> 2014–2017</p> <p>Supervisors: M. Mazen Alamir and M. Patrick Bonnay, on cryogenic process control and optimization.</p> <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>• Familiar with Matlab (<i>CPLEX</i>, <i>ACADO</i>, <i>NLopt</i>), C, TeX and Inkscape, PLC, SCADA and Modbus.</li></ul> <p><b>Research Intern, Grenoble Images Parole Signal Automatique Laboratoire</b> Jan–May 2014</p> <p>Supervisors: M. Ioan D. Landau and M. Luc Dugard, on robust active vibration analysis and control.</p> <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> <p><b>Industrial Intern, Yazaki Corporation</b> Apr 2011</p> <ul style="list-style-type: none"><li>• Analyse customer specifications, present technical solution, train operators, deliver bill-of-materials,</li><li>• Design, set up and program PLC, HMI and inverter using AutoCAD, Step7 and WinCC.</li></ul> |
| EDUCATION    | <p><b>M.S. Automation &amp; Control Engineering</b>, Université Joseph Fourier de Grenoble 2014<br/>Mention: good   GPA: 15/20</p> <p><b>B.S. Automation &amp; Control Engineering</b>, Hanoi University of Science and Technology 2012<br/>Mention: good (<i>Talented Engineer's Program</i>)   GPA: 3.17/4.00</p>   |
| AWARDS       | <p><b>Excellence Master Fellowship</b>, LabEx PERSYVAL-Lab 2013</p> <p><b>Vallet Scholarship for excellent academic performance</b>, Rencontres du Vietnam 2008</p>   |
| VALORISATION | <p><b>CS50's Introduction to Computer Science Course Certification</b>, Harvard University via edX</p> <p><b>Six Sigma and Lean Processional Program Certification</b>, Technische Universität München via edX</p> <p><b>TUM Lean Six Sigma Yellow Belt Certification</b>, Technische Universität München</p> <p><b>Semaine d'Étude Maths-Info Entreprises</b>, Agence Maths Entreprises</p>  |
| LANGUAGES    | <p>Vietnamese (<i>native</i>)   English (<i>fluent</i>: IELTS 6.5)   French (<i>basic</i>)</p>  |
| SERVICES     | <p><b>Junior Researcher, Dong A University Research Institute</b> since Jan 2019</p> <p>Research: anomaly detection algorithms with application to wireless sensor networks.</p> <p><b>Community Analyst, Blockchain &amp; Cryptoasset Quantitative Analytics</b> May 2018</p> <p>Research: data-driven analytics of blockchain projects and quantitative trading strategies for crypto-market.<br/>Technology: Python (<i>Flask</i>, <i>Django</i>, <i>Pandas</i>), JS (<i>Highcharts</i>), Hugo, Heroku (<i>Postgres</i>), AWS (<i>RDS</i>).</p> <p><b>Organization Team, Junior Scientist and Industries Annual Meeting</b> Mar 2016</p>   |

- 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.