

# Vuong V. Trinh

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EXPERIENCE	<b>R&amp;D Engineer, Benjamin Muyl Design Sarl</b> Sep–Dec 2018 <ul style="list-style-type: none"><li>Contribute to project <i>Meta</i> for design and analysis, simulation and optimization of sail yachts;</li><li>Deploy Python (<i>CasADi</i>), version management (<i>Git</i>), production tools (<i>Bash</i>) and unit-tests.</li></ul> <b>R&amp;D Engineer, Commissariat à l'Énergie Atomique et aux Énergies Alternatives</b> 2014–2017 Supervisors: M. Mazen Alamir and M. Patrick Bonnay on cryogenic process control and optimization. <ul style="list-style-type: none"><li>Develop advanced control strategies including explicit constrained control and hierarchical distributed coordination, combining machine learning, dynamic optimization and numerical algorithms;</li><li>Dynamic model and simulation of compression stations and cryogenic refrigerators using <i>Simcryogenics</i>; involve in experiments with station 400W 1.8K at SBT and 18kW 4.5K LHC facilities at CERN;</li><li>Intensive use of Matlab and C (<i>CPLEX</i>, <i>ACADOtoolkit</i>); familiar with PLC (<i>Siemens</i>, <i>Schneider</i>), SCADA and Modbus; technology know-how (cold-box, valve, compressor, sensors).</li></ul> <b>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 and teaching assistant for the adaptive control course at EECI IGSC'14.</li></ul> <b>Industrial Intern, Yazaki Corporation &amp; Systech</b> Apr–Aug 2011 <ul style="list-style-type: none"><li>Analyse specifications and present technical solution for automotive wire production conveyors;</li><li>Setup control box, relays and inverters; program PLC and HMI; deploy 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
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
LANGUAGES	Vietnamese ( <i>native</i> )   English ( <i>fluent: IELTS 6.5</i> )   French ( <i>basic</i> )
SERVICES	<b>Adjunct Researcher, Dong A University</b> Mar–Sep 2019 <ul style="list-style-type: none"><li>Work with M. Kim-Phuc Tran on real-time anomaly detection algorithms for industrial Big Data;</li><li>Familiar with Python (<i>Flask</i>, <i>Pandas</i>, <i>TensorFlow</i>), JS (<i>Highcharts</i>), Heroku (<i>Postgres</i>), AWS (<i>RDS</i>, <i>EC2</i>); editing tools (<i>TeX</i>, <i>Inkscape</i>); embedded systems (<i>Rasp Pi</i>, <i>STM32</i>).</li></ul> <b>Organization Team of JSIam</b> , Grenoble Innovation for Advanced New Technologies Mar 2016
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   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	<p><b>Kim-Phuc Tran</b>          Email: kim-phuc.tran@ensait.fr          Phone: +33 (0)3 20 25 89 60</p> <p><b>Ioan-Doré Landau</b>          Email: ioan-dore.landau@gipsa-lab.fr          Phone: +33 (0)4 76 82 63 91</p>	<p><i>Associate Professor in Automation and Industrial Informatics</i>          École Nationale Supérieure des Arts et Industries Textiles          2 allée Louise et Victor Champier, 59056 Roubaix, France</p> <p><i>Emeritus Research Director at National Centre for Scientific Research</i>          Grenoble Images Parole Signal Automatique Laboratoire          11 rue des Mathématiques, 38400 Saint-Martin-d'Hères, France</p>
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MISC **Personal Info:** Gender: Male | Marital status: Single | DOB: 20 Dec 1989 | POB: Thanh Hoa (Vietnam)

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

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