

Vuong V. Trinh

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EXPERIENCE	<p>Adjunct Researcher, Dong A University Research Institute Mar–Sep 2019</p> <ul style="list-style-type: none">• Work with Kim-Phuc Tran, Anh-Tuan Mai, Thu-Huong Truong on real-time anomaly detection algorithms for industrial Big Data, particularly for wireless sensor networks;• Familiar with Python (<i>Flask</i>, <i>Pandas</i>, <i>Scikit-Learn</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>). <p>R&D Engineer, Benjamin Muyl Design Sarl Sep–Dec 2018</p> <ul style="list-style-type: none">• Work with Benjamin Muyl and Antoine Guillou on simulation and optimization of sail yachts;• Contribute to project <i>Meta</i> by upgrading from Java and Matlab to Python using symbolic framework;• Deploy Python (<i>CasADi</i>), version management (<i>Git</i>), production tools (<i>Bash</i>) and unit-tests. <p>R&D Engineer, Commissariat à l'Énergie Atomique et aux Énergies Alternatives 2014–2017</p> <p>Supervisors: Mazen Alamir and Patrick Bonnay on cryogenic process control and energetic optimization, within project ANR CRYOGREEN.</p> <ul style="list-style-type: none">• 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 <i>Simcryogenics</i>; involve in experiments with station 400W 1.8K at SBT and 18kW 4.5K LHC facilities at CERN;• 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). <p>Research Intern, Grenoble Images Parole Signal Automatique Laboratoire Jan–May 2014</p> <p>Supervisors: Ioan Doré Landau and Luc Dugard, on robust active vibration analysis and control.</p> <ul style="list-style-type: none">• 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. <p>Industrial Intern, Yazaki Corporation Apr–Aug 2011</p> <ul style="list-style-type: none">• 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	<p>M.S. Automation & Control Engineering, Université Joseph Fourier & Grenoble INP 2013–2014</p> <p>Mention: <i>good (MiSCIT Program)</i> GPA: 15/20 Rank: 3/18</p> <p>B.S. Automation & Control Engineering, Hanoi University of Science and Technology 2007–2012</p> <p>Mention: <i>good (Talented Engineer's Program)</i> GPA: 3.17/4.00</p>
AWARDS	<p>Excellence Master Fellowship, LabEx PERSYVAL-Lab 2013</p> <p>Vallet Scholarship for excellent academic performance, Rencontres du Vietnam 2008</p> <p>Double Prize in Physics (1st) and Maths (cons), Vietnam Mathematics & Youth Magazine 2007</p>
LANGUAGES	Vietnamese (<i>native</i>) English (<i>fluent: IELTS 6.5</i>) French (<i>basic</i>)
VALORISATION	<p>CS50's Introduction to Computer Science, Harvard University edX</p> <p>Six Sigma and Lean Processional Program, Technische Universität München edX</p> <p>TUM Lean Six Sigma Yellow Belt, Technische Universität München TUM School of Management</p> <p>Semaine d'Étude Maths-Info Entreprises, Agence Maths Entreprises ANSYS OPTIS</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. (Runner-up *Best Paper Award*)

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

REFERENCES **Kim-Phuc Tran** *Associate Professor in Automation and Industrial Informatics*
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Ioan-Doré Landau *Emeritus Research Director at National Centre for Scientific Research*
 Email: ioan-dore.landau@gipsa-lab.fr *Grenoble Images Parole Signal Automatique Laboratoire*
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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