Tran-Thanh Ngo

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30 years old, French-Vietnamese citizenship

Education

2012–2015 **PhD Degree in Image Processing**, *ICube Lab, University of Strasbourg*, Strasbourg, France.
- Thesis title: "Shadow/Vegetation and Building Detection from single optical remote sensing image".
- Supervisor: Christophe Collet, Professor and Vincent Mazet, Associate Professor, Télécom Physique Strasbourg.

2011–2012 **Master Degree**, *IMT Atlantique (ex-Télécom Bretagne)*, Brest, France.
- Speciality: Signal, Image, Embedded Systems and Automatics - option Image (SISEA-I).
- Grade: excellent (17.31/20).

2010–2012 **Engineering Degree**, *IMT Atlantique (ex-Télécom Bretagne)*, Brest, France.

2006–2010 **Engineering Student**, *HoChiMinh City University of Technology*, Vietnam.
Training program for engineers of excellence in Vietnam.

Professional Experience

Jan. 2016–Now **Image Processing/Machine Learning R&D Engineer**, *CEA Cadarache*, France.
- Working program: conception and development of a software platform for the exploitation of infrared thermography in nuclear fusion devices (WEST tokamak and W7-X stellarator).
- Specific tasks: algorithm design (deep learning technique with Python and Tensorflow library) and programming (in C++ with OpenCV library) for thermal event detection and tracking, development of the visual GUI application of the system (with Qt library).

Oct. 2012–Sept. 2015 **Image Processing R&D Engineer**, *ICube Lab, Group Models Image Vision*, Strasbourg, France.
- Topic 1: shadow detection, vegetation detection from VHR optical imagery
- Topic 2: building detection from VHR aerial imagery using shadow and image segmentation
- Research skill developed: statistical analysis, Markov model, Bayesian inference, Dempster-Shafer evidence theory, pattern recognition, graph cuts, technical paper writing.

Oct. 2012–Sept. 2015 **Teaching Assistant**, *Télécom Physique Strasbourg* , France.
- Image processing with Matlab programming
- Numerical Analysis and C programming
- Signal Processing
- Statistics

Apr.–Sept. 2012 **Signal Processing Engineer Intern**, *Ifremer, Brest and CLS, Toulouse* , France.
- Topic: analysis of individual migration movements of the European sea bass by data mining with electronic tagging
- Research skills developed: statistical analysis, Markov model.

Nov. 2011–Mar. 2012 **Image Processing Research Intern**, *Télécom Bretagne*, Brest, France.
- Topic: analysis and modeling of multimodal distribution of visual signature key-points (SIFT, SURF) for Image Recognition.
- Research skills developed: statistical analysis, marked point process, feature detection.

Certificates

- Machine Learning (by Stanford University on Coursera)
- Neural Networks and Deep Learning (by deeplearning.ai on Coursera)

- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (by deeplearning.ai on Coursera)
- Structuring Machine Learning Projects (by deeplearning.ai on Coursera)
- Convolutional Neural Networks (by deeplearning.ai on Coursera)
- Sequence Models (by deeplearning.ai on Coursera)
- End-to-End Machine Learning with TensorFlow on GCP (by Google Cloud on Coursera)

Skills

Computer Programming C/C++ (OpenCV, Qt), Python (TensorFlow), Matlab.

Languages French (fluent), English (high level), Vietnamese (mother language).

Awards, Fellowships and Grants

- Odon Vallet Scholarship (for the most excellent students in Vietnam), 2005 and 2006
- Second prize in National Mathematics Olympic of Vietnam (for high-school students, 2005, 2006)
- Second prize in Vietnam Mathematics Competition for University Students (2008)
- Vietnamese Government Scholarship (2010)
- EUROFusion Engineering Grant (2016-2018)

Scientific Publications

- A. Puig Sitjes, M. Jakubowski, A. Ali, P. Drewelow, F. Pisano, V. Moncada, **T.T. Ngo**, B. Cannas, J.M. Travere, G. Kocsis, T. Szepesi and W7-X Team, "Wendelstein 7-X Near Real-time Image Diagnostic System for Plasma Facing Components Protection", Fusion Science and Technology, Volume: 74, Issue: 1-2, 2018.
- **TT. Ngo**, Ch. Collet, V. Mazet, "Shape-based Building Detection in Visible Band Images using Shadow Information", IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Volume: 10, Issue: 3, March 2017.
- Mathieu Woillez, Ronan Fablet, **Tran-Thanh Ngo**, Maxime Lalire, Pascal Lazure, Hélène de Pontual, "A HMM-based model to geolocate pelagic fish from high-resolution individual temperature and depth histories: European sea bass as a case study", Ecological Modelling, 2016-02 , Vol. 321 , P. 10-22.
- **TT. Ngo**, Ch. Collet, V. Mazet, "Détection simultanée de l'ombre et la végétation sur des images aériennes couleur en haute résolution", Traitement du Signal, Vol. 32(2-3):311-333, 2015.
- **TT. Ngo**, Ch. Collet, V. Mazet, "Automatic rectangular building detection from VHR aerial imagery using shadow and image segmentation", International Conference on Image Processing ICIP'15
- **TT. Ngo**, Ch. Collet, V. Mazet, "MRF and Dempster-Shafer theory for simultaneous shadow/vegetation detection on high resolution aerial color images", International Conference on Image Processing ICIP'14.
- **TT. Ngo**, Ch. Collet, V. Mazet, "Détection simultanée de l'ombre et la végétation sur des images aériennes couleur en haute résolution", RFIA 2014, Rouen, 2014.
- Hélène de Pontual, **Tran-Thanh Ngo**, Maxime Lalire, Pascal Lazure, François Garren, Mickaël Drogou, Mathieu Woillez, Ronan Fablet, "Understanding the spatial dynamics of European sea bass: new insights on seasonal migration patterns from electronic tagging off the coast of west Brittany", ICES Annual Science Conference 2013, Iceland.
- M. Woillez, R. Fablet, **T.T. Ngo**, M. Lalire, P. Lazure, F. Garren, H. de Pontual, "A HMM-based model to geolocate pelagic fish from high-resolution individual temperature and depth histories: European sea bass as a case study", 5th Bio-logging Scientific Symposium, BLS5, 2014, France.

Interests

Sport badminton, jogging, football

Other non-fiction books, mindfulness meditation