

# Nam Duong DUONG

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## EDUCATION

**2016 – 2019**     **PhD – CentralSupélec**  
*Specialized : Signal, Image, Vision*

**2015 – 2016**     **IT master - Pierre and Marie Curie University - Telecom ParisTech**  
*Specialized : Image processing - Advanced Image Processing and Vision*  
*Grading : Good*

**2010 – 2015**     **IT Engineer - Hanoi University of Science and Technology, Vietnam**  
*Specialized : Information and Communication Systems*  
*Marking : 17.1/20*                      *Grading : Very good*                      *Ranking : 02/18*

## EXPERIENCES

**09/2019- Present**     **Research Development Engineer at Institute of Research and Technology b-com**  
Working on Augmented Reality and Computer Vision projects for Industry and Healthcare 4.0.  
Co-supervisor of interns and a PhD student, Yasser Boutaleb, for the thesis: “the analysis of a user's activity in augmented reality”.

**09/2016- 08/2019**     **PhD student at Institute of Research and Technology b-com**  
*Thesis:* Hybrid Machine Learning and Geometric Approaches for Single RGB Camera Relocalization.  
*Supervisors:* Pierre-Yves RICHARD, Catherine SOLADIÉ, Jérôme ROYAN.  
Defense on 10<sup>th</sup> December 2019  
*Juries:* Guillaume MOREAU, Tomas PAJDLA, Vincent LEPETIT and supervisors.

**02-07/2016**     **Master internship at INNOV-PLUS, Orsay, France**  
*Subject :* Embedded Electronic Development: Real-Time Porting of Image Processing Algorithms  
*Task :* Develop the driver alertness system to reduce driver fatigue losses

**08/2014 – 07/2015**     **Research Internship – MICA Research Institute (IPH-CNRS/UMI 2954 INP Grenoble, Vietnam)**  
*Task 1:* Research and development computer vision algorithms for identifying plants using their image.  
*Task 2:* Build image processing systems to detect, track and characterize boats on the sea.

**06-08/2014**     **Engineer Internship – BK-ICT (an IT company, Vietnam)**  
*Task:* Research of the ARM microcontroller and creation of a communication system at a hospital by wifi.

**07-08/2013**     **Engineer Internship – LIFETIME (an IT company, Vietnam)**  
*Task:* iOS application development

**03-05/2013**     **Project – Microsoft competition, Hanoi University of Science and Technology**  
*Task:* Construction a learning application for kids  
Achieved the Second prize the Microsoft Competition

## PUBLICATION

1. Yasser Boutaleb, Catherine Soladie, **Nam-Duong Duong**, Amine Kacete, Jérôme Royan, Renaud Segurier, Efficient Multi-stream Temporal Learning and Post-fusion Strategy for 3D Skeleton-based Hand Activity

Recognition, 16th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2021.

2. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie, Pierre-Yves Richard, Jérôme Royan, DynaLoc: Real-Time Camera Relocalization from a Single RGB Image in Dynamic Scenes based on an Adaptive Regression Forest, 15th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2020.
3. **Nam-Duong Duong**, Catherine Soladie, Amine Kacete, Pierre-Yves Richard, Jérôme Royan, Efficient multi-output scene coordinate prediction for fast and accurate camera relocalization from a single RGB image, Computer Vision and Image Understanding, 2019.
4. **Nam-Duong Duong**, Catherine Soladie, Amine Kacete, Pierre-Yves Richard, Jérôme Royan, Forêt de Régression Précise basée sur des Caractéristiques Éparses pour la Relocalisation de Caméra en Temps-Réel, GRETSI, Lille, France, 2019.
5. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie, Pierre-Yves Richard, Jérôme Royan, xyzNet: Towards Machine Learning Camera Relocalization by Using a Scene Coordinate Prediction Network, In IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), pp. 258-263, Munich, Germany, 2018.
6. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie, Pierre-Yves Richard, Jérôme Royan, Accurate Sparse Feature Regression Forest Learning for Real-Time Camera Relocalization, In IEEE International Conference on 3D Vision (3DV), pp. 643-652, Verona, Italy, 2018.
7. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie, Pierre-Yves Richard, Jérôme Royan, Online Sparse Scene Coordinates Learning for Real-Time Camera Relocalization, In IEEE International Conference on 3D Vision (3DV)(demo), Verona, Italy, 2018.
8. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie, Pierre-Yves Richard, Jérôme Royan, Relocalisation Robuste de Caméra en Temps Réel pour la Réalité Augmentée par une Approche Hybride combinant Réseaux de Neurones et Méthodes Géométriques, Dans le congrès Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP), Marne-la-Vallée, France, 2018.
9. Thi-Lan Le, **Nam-Duong Duong**, Hai Vu, Thanh-Nhan Nguyen, MICA at LifeCLEF 2015: Multi-organ Plant Identification, CLEF 2015 Working Notes proceedings, 2015
10. Thi-Lan Le, **Nam-Duong Duong**, Hai Vu, Van-Toi Nguyen, Van-Nam Hoang, Thi Thanh Nhan Nguyen, Complex Background Leaf-based Plant Identification Method Based on Interactive Segmentation and Kernel Descriptor, The 2nd International Workshop on Environmental Multimedia Retrieval (EMR 2015) - in conjunction with ICMR 2015, Shanghai, China; 06/2015

## PATENTS

1. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie. Method for predicting a three-dimensional (3d) depiction, and corresponding device, system and computer program. Patent WO2020126693. Jun 25, 2020.
2. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie. Method for Estimating the Installation of a Camera in the Reference Frame of a Three-Dimensional Scene, Device, Augmented Reality System and Associated Computer Program. Patent WO2019091787. May 16, 2019.
3. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie. Procédé de prédiction d'une représentation en trois dimensions (3D), Dispositif, Système et Programme d'ordinateur correspondant. Patent FR1873626.

## TECHNICAL SKILLS

Techniques	Image Processing, Computer Vision, Machine Learning, Augmented Reality Programming: C++, Python, C#, Matlab, Unity3D. Framework: OpenCV, Pytorch/Libtorch, Caffe.
Languages	French, English, Vietnamese (mother tongue).

## AWARDS

04/2019      The best PhD student at IRT b-com in 2018

- 09/2015** Master scholarship of the Ile de France region
- 06/2015** First prize at the "Scientific Research Competition" of the MICA Institute – CNRS/UMI 2954
- 06/2013** Second prize at the Microsoft Competition
- 04/2009** Second Prize in Information Technology at the 2009 Vietnam Contest for Gifted High School Students.
- 04/2008** Second Prize in Information Technology at the 2008 Vietnam Contest for Gifted High School Students.

## HOBBIES

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**Sports:** Football, badminton, table tennis.

**Others:** traveling, music, cinema.