Nam Duong DUONG

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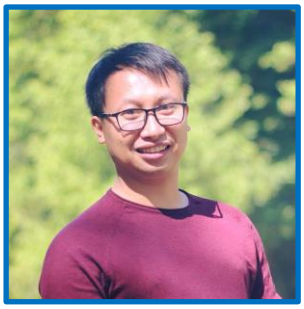

EDUCATION

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

09/2022-Now **Sr. Engineer - Algorithms, GoPro Technology France SAS**

09/2019-08/2022 **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, and especially developing real-time algorithms for camera localization, relocalization and mapping for digital twin and AR cloud.
- Joining to develop an Augmented Reality framework, called SolARFramework: https://solarframework.github.io/
- 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 10th December 2019
Juries: Guillaume MOREAU, Tomas PAJDLA, Vincent LEPETIT and supervisors.

02-07/2016 **Master internship at INNOV-PLUS, Orsay, France**
- Develop the driver alertness system based on images to reduce driver fatigue losses

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

06-08/2014 **Engineer Internship – BK-ICT (an IT company, Vietnam)**
- 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)**
- *iOS application development*

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

PUBLICATION

1. Yasser Boutaleb, Catherine Soladie, **Nam-Duong Duong**, Jérôme Royan, Renaud Seguier. Metric Learning-Based Unsupervised Domain Adaptation for 3D Skeleton Hand Activities Categorization. International Conference on Image Analysis and Processing 2022.
2. Yasser Boutaleb, Catherine Soladie, **Nam-Duong Duong**, Jérôme Royan, Renaud Seguier, Multi-stage RGB-based Transfer Learning Pipeline for Hand Activity Recognition, 17th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2022.
3. Yasser Boutaleb, Catherine Soladie, **Nam-Duong Duong**, Amine Kacete, Jérôme Royan, Renaud Seguier, 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.
4. **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.
5. **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.
6. **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.
7. **Nam-Duong Duong**, Amine Kacete, Catherine Sodalie, 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.
8. **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.
9. **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.
10. **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.
11. 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
12. 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. A Method for predicting a three-dimensional (3D) representation, apparatus, system and computer program therefor. US Patent App. 17/416,104, 2022.
2. **Nam-Duong Duong**, Amine Kacete, Catherine Soladie. A method for estimating the pose of a camera in the frame of reference of a three-dimensional scene, device, augmented reality system and computer program therefor. US Patent App. 16/762,853, 2021.
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

Sports: Football, badminton, table tennis.

Others: traveling, music, cinema.