Hoàng-Ân LÊ | Postdoctoral Researcher

Info

Born: June 16, 1990
Nationality: Vietnamese
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Research interest: Multi-modality Computer Vision with Deep Learning, including intrinsic image decomposition (photometry), depth and surface normal (geometry), optical flow (motion), and object labeling (semantics).

Education

Doctor of Philosophy in Computer Science — **University of Amsterdam, the Netherlands**
funded by TrimBot2020 project, EU Horizon program — *2016–2021*

- **Advisor** Prof. Theo Gevers and A/Prof. Thomas Mensink
- *Provisional graduation* Summer 2021
- *Dissertation* Outdoor Image Understanding from Multiple Vision Modalities

Master of Science in Engineering | Diplôme d'Ingénieur — **Télécom ParisTech, France**
international program—all classes in English — *2012–2015*

- 2012–2013 | *John von Neumann institute*, Vietnam National University, Vietnam
- 2013–2015 | *EURECOM institute, Campus SophiaTech*, Télécom ParisTech, France
  - **GPA** 4.00/4.00 | **Eiffel scholarship** by Campus France
  - **Semester project** "*Person-based Video Hyperlinking*" **Advisor** A/Prof. Benoit Huet
    Recognizing and linking people in a video dataset based on LBP facial descriptors.
  - **Graduation project** "*Multi-Camera Matching and Point Clouds Registration for 3D Immersive Visual Systems*" **Advisor** Prof. Minh Do, UIUC, USA.

Bachelor of Science — **Ho Chi Minh University of Science, Vietnam**
advanced program in computer science—all classes in English — *2008–2012*

- **GPA** 3.96/4.00 | **Rank** 1/22 (in class), 1/600 (among intakes)
- **Graduation project** *"Natural User Interface for Smart Environment"* | **Mark** 10.0/10.0
  Advisor A/Prof. Minh-Triet Tran
  Designing and implementing a smart multimodal environment supporting natural body gestures, voices and handheld devices using Microsoft Kinect. The system is published in proceeding of HCII'13.

Notable Courses

Marco Loog, David Tax — **TU Delft**
Advanced Pattern Recognition, the Netherlands — *2017*

Arnold Smeulders, Cees Snoek, Efstratios Gavves — **University of Amsterdam**
Computer Vision by Learning, the Netherlands — *2017*

Prof. Bernard Merialdo — **EURECOM**
Intelligent Systems, France — *2014*

Prof. Bernard Merialdo — **EURECOM**
Multimedia Indexing and Retrieval, France — *2013*

Prof. Bao T. Ho — **JAIST**
Data Mining and Information, Japan

Experiences

Deep learning based Multimodal Analysis — **France Énergies Marines institute**
Postdoc Researcher — *Jan 2021–present*
Advisor Prof. Sébastien Lefèvre and Dr. Geogres Safi

Deep learning based Multimodal Analysis — **Université Bretange Sud**
Visiting Researcher — *Oct 2020–Dec 2020*
Advisor Prof. Sébastien Lefèvre

Projects

Deep learning based Multimodal Analysis — **OBÉLIX - IRISA institute**
Offshore Wind Farm Surveys Of Marine Megafauna — *Jan 2021–present*
Principal Investigator Prof. Sébastien Lefèvre

Digital Terrain Model extraction — **OBÉLIX - IRISA institute**
Positive Plant-Plant interaction and spatial Patterns in Pyrenean Post-mine tailings — *Oct 2020–present*
Principal Investigator Prof. Sébastien Lefèvre

TrimBot2020 Cutting Hedge Research — **University of Amsterdam**
funded by European Union Horizon 2020 program, the Netherlands — *Apr 2016–Dec 2019*
Principal Investigator Prof. Theo Gevers
The TrimBot2020 project develops a vision-controlled robot for autonomous navigation and trimming of gardens, which works in uncontrolled outdoor conditions without the need for active illumination or sensors. The robot navigates over varying terrain and approaches rose bushes and boxwood topiary, to trim them to an ideal shape. We are responsible for the vision-based 3D data analysis and scene understanding work-package. The project consortium partners include University of Edinburgh, Wageningen University and Research, ETH Zurich, Albert-Ludwigs-University Freiburg, Rijksuniversiteit Groningen, and Robert Bosch company.

Internships

Multi-Camera Matching and Point clouds Registration — **CSL@UIUC and Personify Inc.**
Obiwan project : 3D Immersive Visual System, Illinois, USA — *Mar 2015–Sep 2015*
Supervisor Prof. Minh Do and Prof. Sanjay Patel
A joint project between Coordinate Science Lab (UIUC) and Personify Inc. to study and implement an end-to-end system that provides full 3D immersive experience using Intel's newest released RealSense camera R200 and Oculus Rift DK2.

Search and Hyperlinking task at MediaEval 2014 — **EURECOM institute**
LinkedTV project : Multimedia and Video retrieval, France — *Jun 2014–Sep 2014*
Supervisor A/Prof. Benoit Huet
The search and hyperlinking task requires participants to retrieve relevant video segments, given texts or videos as search queries. The interns participated as members of the LinkedTV team to propose solutions for the tasks. The internship was concluded by a working note published in the workshop proceeding and a paper in SLAM'15.

Teaching Assistant

University of Amsterdam
Computer Vision 1, Amsterdam, the Netherlands — *2017–2020*
Lecturer Prof. Theo Gevers

University of Amsterdam
Computer Vision 2, Amsterdam, the Netherlands — *2016–2017*
Lecturer Prof. Theo Gevers

Honors and Awards

Being interviewed for the TrimBot2020 project's *Human Face of Robotics* — *2020*
`https://tinyurl.com/tb2020-hale`

Oral presentation at BMVC, *Three for One and One for Three : Flow, Segmentation, and Surface Normal* — *2018*

Eiffel scholarship holder by Campus France — *2013–2015*

Academic Services

Reviewer for CVPR, BMVC, WACV, ACCV *2019–present*

Volunteer for ECCV *2016*

Publications

Journals

[J3] **HA. Le**, T. Nimbhorkar, T. Mensink, AS. Baslamisli, S. Karaoglu, T. Gevers, "Unsupervised Generation of Optical Flow Datasets", *under submission to Computer Vision and Image Understanding*, 2021.

[J2] AS. Baslamisli, P. Das, **HA. Le**, S. Karaoglu, T. Gevers, "ShadingNet : Image Intrinsics by Fine-Grained Shading Decomposition", *under submission to International Journal in Computer Vision*, 2020.

[J1] **HA. Le**, MT. Doan, MT. Tran, "Webcam-based Laser Dot Detection Technique in Computer Remote Control", in *Proceedings of the 3th International Conference on Theories and Applications of Computer Science : Special issue of The Journal of Science and Technology* (ICTACS), 2010.

International Conferences

[C9] **HA. Le**, P. Das, T. Mensink, T. Gevers, "EDEN : Multimodal Synthetic Dataset of Enclosed GarDEN Scenes", in *Winter Conference of Applications on Computer Vision* (WACV), 2021.

[C8] J. Han, S. Karaoglu, **HA. Le**, T. Gevers, "Object features and face detection performance : Analyses with 3D-rendered synthetic data", in *International Conference on Pattern Recognition* (ICPR), 2020.

[C7] **HA. Le**, P. Das, T. Mensink, T. Gevers, "Novel view synthesis from single images via point cloud transformation", in *British Machine Vision Conference* (BMVC), 2020.

[C6] **HA. Le**, AS. Baslamisli, T. Mensink, T. Gevers, "Three for one and one for three : Flow, Segmentation, and Surface Normals", in *British Machine Vision Conference* (BMVC), 2018 **Oral** (acceptance rate 4.3%).

[C5] AS. Baslamisli, TT. Groenestege, P. Das, **HA. Le**, S. Karaoglu, T. Gevers, "Joint Learning of Intrinsic Images and Semantic Segmentation", in *European Conference in Computer Vision* (ECCV), 2018.

[C4] AS. Baslamisli, **HA. Le**, T. Gevers, "CNN based Learning using Reflection and Retinex Models for Intrinsic Image Decomposition", in *Computer Vision and Pattern Recognition* (CVPR), 2018.

[C3] **HA. Le**, KNC. Mac, TA. Pham, VT. Nguyen, MT. Tran, "Multimodal Smart Interactive Presentation System", in *Proceedings of the 15th International Conference on Human-Computer Interaction* (HCII), 2013.

[C2] **HA. Le**, KNC. Mac, TA. Pham, MT. Tran, "Realtime Pointing Gesture Recognition and Applications in Multi-user Interaction", in *Proceedings of the 5th Asian Conference on Intelligent Information and Database Systems* (ACIIDS), 2013.

[C1] **HA. Le**, KNC. Mac, TA. Pham, VT. Nguyen, MT. Tran, AD Duong, "SIM - Smart Interactive Map with Pointing Gestures", in *Proceedings of the 4th International Conference on Intelligent Human-Machine Systems and Cybernetics, IEEE Computer Society's Conference* (IHMSC), 2012.

Workshops

[W4] R. Tylecek, T. Sattler, **HA. Le**, T. Brox, M. Pollefeys, RB. Fisher, T. Gevers, "The Second Workshop on 3D Reconstruction Meets Semantics : Challenge Results Discussion", in *European Conference in Computer Vision Workshop* (ECCVw), 2018.

[W3] I. Pratikakis, MA. Savelonas, F. Arnaoutoglou, G. Ioannakis, A. Koutsoudis, T. Theoharis, MT. Tran, VT. Nguyen, VK. Pham, HD. Nguyen, **HA. Le**, BH. Tran, QH. To, MB. Truong, TV. Phan, MD. Nguyen, TA. Than, KNC. Mac, MN. Do, AD. Duong, T. Furuya, R. Ohbuchi, M. Aono, S. Tashiro, D. Pickup, X. Sun, PL. Rosin, RR. Martin, "Partial Shape Queries for 3D Object Retrieval", in *Eurographics 2016 Workshop on 3D Object Retrieval*, 2016.

[W2] M.Eskevich, QM. Bui, **HA. Le**, B. Huet, "Exploring Video Hyperlinking in Broadcast Media", in *Proceedings of the Third Edition Workshop on Speech, Language and Audio in Multimedia* (SLAM), 2015.

[W1] **HA. Le**, QM. Bui, B. Huet, B. Cervenkova, J. Bouchner, E. Apostolidis, F. Markatopoulou, A. Pournaras, V. Mezaris, D. Stein, S. Eickeler, M. Stadtschnitzer "LinkedTV at MediaEval 2014 Search and Hyperlinking Task", in *Working Notes Proceedings of the MediaEval 2014 Workshop*, 2014.