Héctor Laria Mantecón PhD Student, Computer Vision



(Exp.) Sept 2024

PhD. Computer Vision and Deep Learning, Universitat Autònoma de Barcelona, Spain.

Thesis: (Provisional) "Transfer of Generative Models for Small Domains"

Supervisor: Joost van de Weijer Advisor: Bogdan Raducanu

Cambridge ELLIS Machine Learning Summer School, Cambridge University, United Kingdom. 2022

European Laboratory for Learning and Intelligent Systems (ELLIS), Cambridge Unit.

MSc. Machine Learning, Data Science and Artificial Intelligence, Honours distinction, Aalto University, 2019

Finland.

Thesis: "Deep Reinforcement Sequence Learning for Visual Captioning". Aaltodoc.

Supervisor: Jorma Laaksonen

BSc. Software Engineering, Complutense University, Madrid.

Specialised in Artificial Intelligence

A+ grades and honours scholarships, these including Machine Learning and Evolutionary Computation.

Thesis: "Several evolutionary approaches to advanced bot development for Pac-Man". Paper.

Supervisor: Antonio A. Sánchez Ruiz-Granados

Advisor: Carlos Cervigon Ruckaüer



EXPERIENCE

August 2024

Doctoral candidate at COMPUTER VISION CENTER, Barcelona

September 2020 Learning and Machine Perception Team

Focus on efficient Generative Models under data-constrained scenarios.

- > Huawei research project Deep Lifelong Learning in Open World Scenarios
- > Audi research project *Transfer Learning for Conditional Video Generation*
- > HPC cluster administrator.

August 2020

Project Employee at AALTO UNIVERSITY, Helsinki

November 2019 Extreme Classification Group (aka Rohit Babbar's group), School of Science

Room acoustics modelling with Machine Learning methods Project

- > Led implementation and model training efforts.
- > Analysed and discussed state-of-the-art generative time-series models focused on audio data.
- > Produced insightful visualisations for model behaviour debugging.

August 2019

Research Assistant at AALTO UNIVERSITY, Helsinki

April 2018

Content-Based Image and Information Retrieval Group, School of Science

MeMAD Project, Video to Text (Horizon 2020 programme)

- > Took part in international research collaboration for accessing and using audiovisual content.
- > Assisted on model training and feature creation.
- > Contributed to periodic international meetings with expertise and new findings.

TRECVID Workshop 2018 and 2019, National Institute of Standards and Technology (NIST).

- > Led efforts for 2019 edition challenge on Video to Text task.
- > Analysed and evaluated new optimisation losses based on Reinforcement Learning.
- > Management and development of *DeepCaption* open-source framework.

June 2017

Research Assistant at Complutense University, Madrid

October 2016

Artificial Intelligence Department, Computer Science and Eng. Faculty

- > Studied human traces recollection in web-based games.
- > Analysed and created data recollection techniques.
- > Assisted model training and learning techniques development used by other researchers.
- > Developed platform for centralised dataset creation.

Conference Proceedings

- 2024 <u>Héctor Laria</u>, Kai Wang, Joost van de Weijer, Bogdan Raducanu, Yaxing Wang. NeRF-Diffusion for 3D-Consistent Face Generation and Editing. **VISAPP**.
- 2022 <u>Héctor Laria</u>, Yaxing Wang, Joost van de Weijer, Bogdan Raducanu. Transferring Unconditional to Conditional GANs with Hyper-Modulation. **CVPR**.
- 2021 Yaxing Wang, <u>Hector Laria Mantecon</u>, Joost van de Weijer, Laura Lopez-Fuentes, Bogdan Raducanu. Transferl2I: Transfer Learning for Image-to-Image Translation from Small Datasets. **ICCV**.
- 2019 Alison Reboud, Ismail Harrando, Jorma Laaksonen, Danny Francis, Raphaël Troncy and <u>Héctor Laria Mantecón</u>. Combining Textual and Visual Modeling for Predicting Media Memorability. **Media Eval**.
- 2017 <u>Laria Mantecón, Héctor</u>, Jorge Sánchez Cremades, José Miguel Tajuelo Garrigós, Jorge Vieira Luna, Carlos Cervigon Rückauer and Antonio A. Sánchez-Ruiz-Granados. A Pac-Man bot based on grammatical evolution. **CoSECivi**.

Publications

- 2019 Mantecon, Hector Laria; Laaksonen, Jorma; Francis, Danny; Huet, Benoit. PicSOM and EURECOM experiments in TRECVID 2019. TRECVID, 23rd International Workshop on Video Retrieval Evaluation.
- 2018 Mats Sjöberg, Hamed R. Tavakoli, Zhicun Xu, <u>Hector Laria Mantecon</u> and Jorma Laaksonen. PicSOM experiments in TRECVID 2018. **TRECVID, 22nd International Workshop on Video Retrieval Evaluation**.

SCIENTIFIC SERVICE

Conference reviewer ICCV 2021, NeurIPS 2023, ICLR 2024, ICML 2024.

SKILLS

Frameworks PyTorch, JAX, TensorFlow

Languages Python, Modern C++, Rust, C, Javascript, Java

Technical Linux administration, HPC administration, Deep Learning pipeline optimization

Soft Intercultural communication, Teamwork, Listening, Presentation, Visual communication, De-

cision making, Patience

AWARDS

2020 Huawei Research Scholarship

2019 Master of Science, Honours distinction

2017 Best Bachelor Thesis of the Year award

2016 Collaboration Scholarship

Ministry of Education, Culture and Sport

Department of Artificial Intelligence, Computer Science and Eng. Faculty, Complutense University Received a research collaboration scholarship as a 4/4 project review from the department.

LANGUAGES



▼ INTERESTS AND ACTIVITIES

Technology, Open-Source, Programming, Artificial Intelligence, Generative Models Fantasy, Philosophy, Sociology Volleyball, Martial arts, Climbing, Puzzles