

Javier Selva Castelló

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Education

- 2018–2023 **PhD in Computer Science** *Universitat de Barcelona*.
Thesis in progress: *Towards Video Transformers for Automatic Human Analysis*.
Advisors: *Prof. Sergio Escalera Guerrero* and *Dr. Albert Clapés i Sintès*
- 2015–2018 **Master of Science in Artificial Intelligence** *Universitat Politècnica de Catalunya*.
Thesis: *A Comprehensive Survey on Deep Future Frame Video Prediction*.
Advisor: *Prof. Sergio Escalera Guerrero*
- 2010–2015 **Bachelor in Computer Science** *Universitat Politècnica de València*.
Thesis: *Development of a sentiment analysis system on Twitter*.
Advisors: *Dr. Lluís Felip Hurtado Oliver & Dr. Ferran Pla Santamaría*

Publications ([Google Scholar](#))

- 2023 ○ **J. Selva**, A. S. Johansen, S. Escalera, K. Nasrollahi, T. B. Moeslund and A. Clapés, *Video Transformers: A Survey*. In *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI 2023)*.
- 2021 ○ D. Curto*, A. Clapés*, **J. Selva***, S. Smeureanu, J.C.S. Jacques Junior, D. Gallardo-Pujol, G. Guilera, D. Leiva, T.B. Moeslund, S. Escalera and C. Palmero. *Dyadformer: A Multi-modal Transformer for Long-Range Modeling of Dyadic Interactions*. In *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops (ICCVW 2021)*.
- C. Palmero*, **J. Selva***, S. Smeureanu*, J.C.S. Jacques Junior, A. Clapés, A. Moseguí, Z. Zhang, D. Gallardo-Pujol, G. Guilera, D. Leiva and S. Escalera. *Context-Aware Personality Inference in Dyadic Scenarios: Introducing the UDIVA Dataset*. In *Proceedings of the IEEE Winter Conference on Applications of Computer Vision Workshops (WACVW 2021)*
- 2018 ○ M. Oliu, **J. Selva**, S. Escalera. *Folded recurrent neural networks for future video prediction*. In *Proceedings of the European Conference in Computer Vision (ECCV 2018)*
- C. Palmero, **J. Selva**, M.A. Bagheri, S. Escalera. *Recurrent CNN for 3D Gaze Estimation using Appearance and Shape Cues*. In *Proceedings of the British Machine Vision Conference (BMVC 2018)*

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Teaching Experience

- 2021-2022 **Lecturer** *Université Paris-Saclay* MSc on Artificial Intelligence, Computer Vision.
Lecture on Transformers for Computer Vision.
- 2018-2021 **Programming Teacher** *Universitat de Barcelona*.
- Algorithms (364298)
 - Advanced Algorithms (364300)

Work Experience

- 2018-2023 **Research Assistant** *Universitat de Barcelona* Spain.
- Experience in the research process: reference search and management, designing novel solutions, experimental design and execution, publishing and reviewing at conferences and journals, and organizing workshops.
 - Gained knowledge in Deep Learning, particularly in Computer Vision, including CNNs, RNNs, Transformers, SSL, and multi-modality. Neural network coding and training with PyTorch (in particular, Video Transformers), hyperparameter search, result tracking and analysis with WandB, data handling, and processing. Extensive experience setting up code environments using Anaconda and Docker.
 - Collaborated in big interdisciplinary project with psychologists. Created a dataset from content definition, designed the technical setting, and was in charge of data gathering, processing, and storage.
- 2022 **Visiting Scholar** *Aalborg Universitet* Denmark.
Successfully led survey paper on Video Transformers, published in IEEE's TPAMI. Experience in adapting to new international environments and teams.
- 2018 **Research Assistant** *Care Respite* Barcelona.
Migrating automatic event detection app from Microsoft's Kinect to Intel's RealSense.

Academic Experience

Organizing

Co-organizer of the Workshop on Understanding Social Behavior in Dyadic and Small Group Interactions (DYAD), ICCV, 2021

Co-organizer of the ChaLearn LAP Challenge on Understanding Social Behavior in Dyadic and Small Group Interactions, ICCV, 2021

Reviewing for conferences

- International Conference on Computer Vision (ICCV '21)
- International Joint Conference on Artificial Intelligence (IJCAI '21)
- Conference on Computer Vision and Pattern Recognition (CVPR '21)
- International Conference on Learning Representations (ICLR '21)
- European Conference on Computer Vision (ECCV '20)
- International Conference on Pattern Recognition (ICPR '20)
- Conference on Computer Vision and Pattern Recognition (CVPR '20)
- AAAI Conference on Artificial Intelligence (AAAI '20)
- International Conference on Machine Learning (ICML '19)

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Computer Skills

Programming

- Python (●●●)
- PyTorch (●●●)
- Tensorflow (●●○)
- MATLAB (●●○)
- Octave (●○○)
- Javascript (●○○)
- JAVA (●●○)
- C/C++ (●○○)
- Wolfram Mathematica (●○○)

ML Research & publication skills, Deep Learning, NLP, CV, SSL, CNN, RNN, Video Transformers, Pattern Recognition.

Technical Bash, Git, Docker, Anaconda, Pycharm, WandB, L^AT_EX, SQL

Front-end HTML5, CSS, Django, Jekyll

OS Linux (Ubuntu), Windows, OSX

Languages

Spansih **Native**

English **C1 Level**

Catalan **C1 Level**

Certificate in Advanced English (CAE)

Mitjà per la Junta Qualificadora