

Fabien Baradel

Ph.D. Candidate, INSA-Lyon
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Research Interests

Deep/Machine Learning, Computer Vision, Video Understanding, Visual Reasoning, Causal Inference

Education

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| INSA-Lyon
Ph.D., Computer Science | Lyon, France | October 2016 - Present |
| – Thesis: <i>"Structured Deep Learning for Video Analysis"</i> | | |
| – Supervisors: Christian Wolf - Julien Mille | | |
| – Expected defense: June 2020 | | |
| ENSAI
M.Sc, Statistics & Computer Science | Rennes, France | September 2013 - June 2016 |
| – Suma Cum Laude (top of class) - High Honors | | |
| – "Diplôme d'ingénieur" from the National School of Statistics and Data Analysis | | |
| University of Warwick
M.Sc, Statistics | Coventry, UK | January 2015 - June 2015 |
| – Erasmus Mundus semester exchange — First-class honors | | |
| University of Paris Dauphine
B.Sc, Applied Economics | Paris, France | January 2015 - June 2015 |
| – Double agreement with ENSAI | | |
| University of Grenoble Alps
B.Sc, Applied Mathematics | Grenoble, France | September 2010 - June 2013 |
| – Suma Cum Laude (top of class) - High Honors | | |

Work Experience

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| Google
Student Researcher intern — Ganesha team | Grenoble, France | April 2019 - Present |
| – Subject: <i>"Self-supervised learning from video data"</i> | | |
| – Advisor: Cordelia Schmid - Chen Sun | | |
| INSA Lyon - LIRIS
Graduate Research Assistant — Imagine team | Lyon, France | October 2016 - October 2019 |
| – Subject: <i>"Deep Learning for Human Understanding"</i> | | |
| – Research on computer vision and machine learning with a focus on human activity recognition and video understanding | | |
| – Advisor: Christian Wolf - Julien Mille | | |
| Simon Fraser University
Visiting researcher — Vision & Media Lab | Vancouver, Canada | February 2018 - June 2018 |
| – Subject: <i>"Human-Object interaction in Videos"</i> | | |
| – Advisor: Greg Mori | | |

University of Guelph

Guelph, Canada

Summer 2017

Visiting researcher — Machine Learning Research Group

– Subject: "*Trimmed Video Classification*"

– Advisor: Graham Taylor

XRCE

Grenoble, France

March 2016 - September 2016

Research Intern — Machine Learning for Services

– *Xerox Research Centre Europe (now NAVER Labs Europe)*

– Subject: "*Unsupervised domain adaptation for image recognition*"

– Advisors: Boris Chidlovskii - Gabriela Csurka

LICIT - IFSTTAR

Lyon, France

June 2015 - August 2015

Research Intern

– Subject: "*Machine Learning for road traffic forecasting*"

– Advisor: Romain Billot

Conference Publications

1. **F. Baradel**, N. Neverova, J. Mille, G. Mori, C. Wolf. "CoPhy: Counterfactual Learning of Physical Dynamics", *The International Conference on Learning Representations (ICLR)*. 2020. **Spotlight**
2. **F. Baradel**, N. Neverova, C. Wolf, J. Mille, G. Mori. "Object Level Visual Reasoning in Videos", *The IEEE European Conference on Computer Vision (ECCV)*. 2018.
3. **F. Baradel**, C. Wolf, J. Mille. "Human Activity Recognition with Pose-driven Attention to RGB", *The British Machine Vision Conference (BMVC)*. 2018.
4. **F. Baradel**, C. Wolf, J. Mille, G. W. Taylor. "Glimpse Clouds: Human Activity Recognition from Unstructured Feature Points", *The IEEE Computer Vision and Patter Recognition (CVPR)*. 2018.

Workshop Publications

1. **F. Baradel**, C. Wolf, J. Mille. "Human Action Recognition: Pose-based Attention draws focus to Hands", *The IEEE International Conference on Computer Vision (ICCV), Workshop "Hands in Action"*. 2017.
2. G. Csurka, **F. Baradel**, B. Chidlovskii, S. Clinchant. "Discrepancy-based networks for unsupervised domain adaptation: a comparative study", *The IEEE International Conference on Computer Vision (ICCV), Workshop "Task-CV"*. 2017.

ArXiv Preprints

1. C. Sun, **F. Baradel**, K. Murphy, C. Schmid. "Learning Video Representations using Contrastive Bidirectional Transformer", *arXiv:1906.05743*. 2019.
2. **F. Baradel**, C. Wolf, J. Mille. "Pose-conditioned Spatio-Temporal Attention for Human Action Recognition", *arXiv:1703.10106*. 2017.

Patents

1. **F. Baradel**, B. Chidlovskii, G. Csurka. "Conditional adaptation network for image classification", *US Patent - 15450620*. 2017.

Talks

"Visual Reasoning in Videos", *GDR ISIS-IA "Reasoning from Visual Signal"*. October 2018. "Pose and Attention for Action Recognition", *GDR ISIS "Pose and Gesture"*. December 2017.

Press Coverage

CVPR Daily 2018: "Glimpse Clouds for Human Activity Understanding".

Teaching Experience

Sciences-U Teacher	Lyon, France	2018-2019
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– *Introduction to Machine Learning* - (M2) - (CM+TD+TP - 30h)

Univ. Lyon 1 Teaching Assistant	Lyon, France	Fall 2017
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– *Regression modelling* - (M2 Data Science) - (TP - 12h)

– *Probability & Statistics* - (L2 Info & MathsEco) - (TP - 20h)

EPITA Teaching Assistant	Lyon, France	September 2017
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– *Mathematics* - (L1) - (CM+TD - 24h)

ENSAI Seminar	Rennes, France	January 2017
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– *Introduction to Deep Learning with Tensorflow* - (MSc Data Science) - (6h)

Awards and Honors

ANR/NSERC Ph.D. Fellowship - DeepVision project

Erasmus Mundus exchange program scholarship

Professional Services

Conference reviewer: ECCV 2020, CVPR 2019-2020, ICML 2019, NIPS 2018

Journal reviewer: IJCV, TNNLS

Computer Skills

Python, Java, SQL, PHP, R, SAS

PyTorch, Tensorflow, FFMPEG, L^AT_EX, Linux, Mac, HTML, CSS