

# Fabien Baradel

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Ph.D. Candidate, INSA-Lyon  
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## Research Interests

Machine Learning, Deep Learning, Computer Vision

## Education

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

## Work Experience

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|---|-----------------------|-------------------------------|
| <b>Google</b>   | Grenoble, France      | April 2019 - September 2019   |
| Student Researcher Intern — Perception team   |                       |                               |
| – <i>"Self-supervised learning in videos"</i> advised by Cordelia Schmid                            |                       |                               |
| – Learning without annotation from visual and audio signals from large-scale video datasets         |                       |                               |
| <br><b>Simon Fraser University</b>  | <br>Vancouver, Canada | <br>February 2018 - June 2018 |
| Visiting researcher — Vision & Media Lab  |                       |                               |
| – <i>"Human-Object interactions in Videos"</i> advised by Greg Mori                                 |                       |                               |
| – One paper published at ECCV 2018  |                       |                               |
| <br><b>University of Guelph</b>   | <br>Guelph, Canada    | <br>Summer 2017               |
| Visiting researcher — Machine Learning Research Group   |                       |                               |
| – <i>"Trimmed Video Classification"</i> advised by Graham Taylor                                    |                       |                               |
| – One paper published at CVPR 2018 — Participation in a CVPR'17 competition on the Kinetics dataset |                       |                               |

- LIRIS** Lyon, France October 2016 - Present  
 Doctoral Researcher — Imagine team
- "Deep Learning for Human Understanding" advised by Christian Wolf and Julien Mille
  - Research on computer vision and machine learning with a focus on human activity recognition and video understanding. Animation of weekly group lecture meeting. Collaboration with N. Neverova (Research Scientist at Facebook Research AI).
- XRCE** Grenoble, France March 2016 - September 2016  
 Research Intern — Machine Learning for Services
- *Xerox Research Centre Europe (now NAVER Labs Europe)*
  - "Unsupervised domain adaptation for image recognition" advised by Boris Chidlovskii and Gabriela Csurka
  - One paper accepted at ICCVW'17 & one U.S. Patent accepted
- LICIT - IFSTTAR** Lyon, France June 2015 - August 2015  
 Research Intern
- "Machine Learning for road traffic forecasting" advised by Romain Billot

## Publications

1. C. Sun, **F. Baradel**, K. Murphy, C. Schmid. "Contrastive Bidirectional Transformer for Temporal Representation Learning", *submitted to Conference on Neural Information Processing Systems (NeurIPS)*. 2019.
  2. **F. Baradel**, N. Neverova, J. Mille, G. Mori, C. Wolf. "Counterfactual Learning of Physical Dynamics", *submitted to The IEEE International Conference on Computer Vision (ICCV)*. 2019.
  3. **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.
  4. **F. Baradel**, C. Wolf, J. Mille. "Human Activity Recognition with Pose-driven Attention to RGB", *The British Machine Vision Conference (BMVC)*. 2018.
  5. **F. Baradel**, C. Wolf, J. Mille, G. W. Taylor. "Glimpse Clouds: Human Activity Recognition from Unstructured Feature Points", *The IEEE Computer Vision and Pattern Recognition (CVPR)*. 2018.
  6. **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.
  7. 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.
  8. **F. Baradel**, C. Wolf, J. Mille. "Pose-conditioned Spatio-Temporal Attention for Human Action Recognition", *arXiv pre-print arXiv:1703.10106*. 2017.
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## Patents

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

## Presentations

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

## Reviewer

ICCV 2019, ICML 2019, CVPR 2019, FG 2019, NIPS 2018, IJCV, TNNLS

## Teaching Experience

**Sciences-U**

Lyon, France

2018-2019

Lecturer

– *Introduction to Machine Learning* - (M2) - (CM+TD+TP - 30h)

**Univ. Lyon 1**

Lyon, France

Fall 2017

Teaching Assistant

– *Regression modelling* - (M2 Data Science) - (TP - 12h)

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

**EPITA**

Lyon, France

September 2017

Teaching Assistant

– *Mathematics* - (L1) - (CM+TD - 24h)

**ENSAI**

Rennes, France

January 2017

Seminar

– *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

## Computer Skills

Python, Java, C, C++, SQL, PHP, R, SAS

PyTorch, Tensorflow, FFMPEG, L<sup>A</sup>T<sub>E</sub>X, Linux, Mac, HTML, CSS