

Fabien Baradel

Ph.D. Candidate, INSA-Lyon
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Research Interests

Machine Learning, Deep Learning, Computer Vision

Education

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|---|----------------------|--------------------------------|
| INSA-Lyon | 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 | | |
|
ENSAI |
Rennes, France |
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 | | |
|
University of Warwick |
Coventry, UK |
January 2015 - June 2015 |
| M.Sc, Statistics | | |
| – Erasmus Mundus semester exchange (First-class honors) | | |
|
University of Paris Dauphine |
Paris, France |
January 2015 - June 2015 |
| B.Sc, Applied Economics | | |
| – Double agreement with ENSAI | | |
|
University of Grenoble Alps |
Grenoble, France |
September 2010 - June 2013 |
| B.Sc, Applied Mathematics | | |
| – Suma Cum Laude (top of class) - High Honors | | |

Work Experience

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|---|-----------------------|-------------------------------|
| Google | Grenoble, France | April 2019 - Mars 2020 |
| 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 | | |
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Simon Fraser University |
Vancouver, Canada |
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 | | |
|
University of Guelph |
Guelph, Canada |
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", *The IEEE European Conference in Computer Vision (ECCV)*. 2020.
2. **F. Baradel**, N. Neverova, J. Mille, G. Mori, C. Wolf. "CoPhy: Counterfactual Learning of Physical Dynamics", *The International Conference in Representation Learning (ICLR)*. 2020. Spotlight presentation.
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.

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

ECCV 2020, ICCV 2019, ICML 2019, CVPR 2019-2020, 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^AT_EX, Linux, Mac, HTML, CSS