Fabien Baradel

Ph.D. Candidate, INSA-Lyon
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Research Interests

Machine Learning, Deep Learning, Computer Vision

Education

INSA-Lyon   Lyon, France   October 2016 - Present
Ph.D., Computer Science
- Thesis: *"Deep Learning for Human Understanding: poses, gestures, activities"*
- 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

Google   Grenoble, France   April 2019 - September 2019
Student Researcher Intern — Perception team
- *"Self-supervised learning in videos"* advised by Cordelia Schmid
- Learning without annotation from visual and audio signals from large-scale video datasets

Simon Fraser Univeristy   Vancouver, Canada   February 2018 - June 2018
Visiting researcher — Vision & Media Lab
- *"Human-Object interactions in Videos"* advised by Greg Mori
- One paper published at ECCV 2018

University of Guelph   Guelph, Canada   Summer 2017
Visiting researcher — Machine Learning Research Group
- *"Trimmed Video Classification"* 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 Patter 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
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, LaTeX, Linux, Mac, HTML, CSS