

**Contact**

Sorbonne University (ex-UPMC)  
 Computer Science Laboratory Paris 6 (LIP6)  
 4, Place Jussieu  
 Paris, 75005, France  
 Mobile: +33.6.35.50.47.88  
[remi.cadene@lip6.fr](mailto:remi.cadene@lip6.fr)  
[remicadene.com](http://remicadene.com)  
[github.com/Cadene](https://github.com/Cadene)

**Personal**

Date of Birth: 14th December, 1992.  
 Languages: French, English, German.

**Education**

2016 - present Ph.D. Student, Machine Learning  
 Sorbonne University - Laboratoire d'Informatique de Paris 6  
 Ph.D. Dissertation: "*Deep Learning for Multi-Modal Embeddings (Vision and Language)*" - Supervised by Pr. [Matthieu Cord](#) and Pr. [Nicolas Thome](#).

2014 - 2016 Master Diploma, Computer Science, Speciality Big Data, Machine Learning and Knowledge Representation  
 Sorbonne University - Laboratoire d'Informatique de Paris 6  
 Master Thesis: "*Deep Learning for Image Recognition*"

2012 - 2014 Bachelor 1&2, Economics, Speciality Business and Financial Management  
 Paris Sorbonne University Abu Dhabi & Paris Descartes (Paris 5)

2010 - 2014 Bachelor Diploma, Computer Science, Speciality Applied Mathematics  
 Sorbonne University

**Appointments**

10/2016 - present	Research and Teaching Assistant	Sorbonne University, Dept. of CS and LIP6
2/2016 - 9/2016	Graduate Research Assistant	Sorbonne University, LIP6
6/2015 - 9/2015	Graduate Research Assistant	Sorbonne University, LIP6

**Curriculum Development**

2016 - present Java and Object-Oriented Programming  
 Bachelor level course, 50 teaching hours per year, attended by 40-50 students  
 The course provides an introduction to Object-Oriented Programming with Java

2016 - present Deep Learning and Pattern Recognition for Computer Vision  
 Master level course, 10 teaching hours per year, attended by 40-50 students  
 The course covers standard and novel technics for image analysis (SIFT, Bag of Visual Words, Support Vector Machines, Logistic Regression, Multiple Instance Learning, Bagging, Convolutional Neural Networks, Transfer Learning, Fine Tuning, Generative Adversarial Networks, Conditional GAN).

2016 - present Practical Introduction to Deep Learning for Image Classification  
 Master level course, 18 teaching hours per year, attended by 40-50 students

The course covers novel technics for image classification (Support Vector Machines, Logistic Regression, Multiple Instance Learning, Bagging, Convolutional Neural Networks, Transfer Learning).

### Professional Experiences

Summer 2019	Facebook AI Research <a href="https://research.fb.com">research.fb.com</a>	Research Intern, advised by <a href="#">Devi Parikh</a>
Summer 2018	Tesla <a href="https://tesla.com">tesla.com</a>	Research Intern, advised by <a href="#">Andrej Karpathy</a>
2016 - present	Calfa (Startup) <a href="https://calfa.fr">calfa.fr</a>	Research and Development Advisor
2014 - 2015	OpeningStage (Startup) <a href="https://openingstage.fr">openingstage.fr</a>	Free Lance Web Developer

### Computer Skills

Data Science:	Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Data Visualization, Large Scale
Languages:	Python/Pytorch/Sklearn/TensorFlow/OpenCV, Lua/Torch7, C/C++/Cuda, PHP/CakePHP, Javascript, HTML/CSS
Databases:	MySQL, Oracle, MongoDB
Others:	git, zsh

### Distinctions and Awards

February 2018	Ranked 11th on 582 international teams at the IEEE's Signal Processing Society Camera Model Identification competition. [ <a href="#">Leaderboard</a> ]
June 2017	Ranked 6th on 25 research teams at the CVPR's VQA competition. [ <a href="#">Leaderboard</a> ]
October 2016	Ranked 2nd on 5 research teams at the M2CAI competition. [ <a href="#">Leaderboard</a> ]
October 2016	Ranked 4th on 20 best teams at the Data Science Game final competition. [ <a href="#">Leaderboard</a> ]
July 2016	Ranked <b>1st</b> on 120 international teams at the Data Science Game online competition. [ <a href="#">Leaderboard</a> ]
June 2016	Received a 3 years Ph.D. fundings given by the Laboratory of Excellence <a href="#">SMART</a> .
June 2016	Received a Master's Degree in Computer Science with the highest qualification of "very good".

### Academic Events

2018	Reviewer TPAMI
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### Software Releases

June 2019	Reducing Unimodal Biases toolbox <a href="https://github.com/CDancette/rubi.bootstrap.pytorch">github.com/CDancette/rubi.bootstrap.pytorch</a>
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- February 2019 Multi-step Relational Reasoning toolbox  
[github.com/Cadene/murel.bootstrap.pytorch](https://github.com/Cadene/murel.bootstrap.pytorch)
- December 2018 Multimodal fusion toolbox  
[github.com/Cadene/block.bootstrap.pytorch](https://github.com/Cadene/block.bootstrap.pytorch)
- August 2018 Multimodal retrieval toolbox  
[github.com/Cadene/recipe1m.bootstrap.pytorch](https://github.com/Cadene/recipe1m.bootstrap.pytorch)
- February 2018 High level framework for Deep Learning projects  
[github.com/Cadene/bootstrap.pytorch](https://github.com/Cadene/bootstrap.pytorch)
- June 2017 Pretrained Convolutional Neural Networks in Pytorch (**5,000 stars**)  
[github.com/Cadene/pretrained-models.pytorch](https://github.com/Cadene/pretrained-models.pytorch)
- April 2017 Visual Question Answering in Pytorch (400 stars)  
[github.com/Cadene/vqa.pytorch](https://github.com/Cadene/vqa.pytorch)
- February 2017 SkipThoughts Models in Torch7 and Pytorch  
[github.com/Cadene/skip-thoughts.torch](https://github.com/Cadene/skip-thoughts.torch)
- January 2017 TensorFlow Pretrained Models in Torch7 (200 stars)  
[github.com/Cadene/tensorflow-model-zoo.torch](https://github.com/Cadene/tensorflow-model-zoo.torch)
- April 2016 DéjàLu: Simple Tool to Organize Research Papers  
[dju.fr](http://dju.fr)

## Presentations

- September 2019 Bluenove, “Artificial Intelligence and its impact on insurance”, attended by 40 people from industry.
- August 2019 Facebook AI Research Menlo Park
- July 2019 Brown University, Thomas Serre’s Lab, “Learning complex behaviours from data”, attended by 20 people from academia
- March 2019 Telecom ParisTech, MVA MasterClass, “Large Scale Deep Learning”, attended by 150 students from Polytechnique, ENS, Centrale, ENSAE
- December 2018 Bluenove, “Artificial Intelligence and its impact on society”, attended by 40 people from industry. [Slides]
- October 2018 Groupe de Recherche sur l’Information, le Signal, l’Image et la Vision (GDR-ISIS), INS2I, CNRS, “*Multimodal fusion and reasoning in VQA*”, attended by 50 people from academia.
- August 2018 Tesla, attended by 60 people from industry.
- Mars 2018 Huawei Technologies, attended by 40 people from industry.
- Mars 2018 Groupe de Recherche sur l’Information, le Signal, l’Image et la Vision (GDR-ISIS), INS2I, CNRS, “*Multimodal Retrieval in the Cooking context*”, attended by 50 people from academia.
- June 2017 University of Côte d’Azur (UCA), UCA Deep Learning School in partnership with Nvidia, “*Lectures on Recurrent Neural Network and Visual Question Answering*”, attended by 100 people from academia and 100 people from industry. [SlidesRNN] [SlidesVQA]
- June 2017 Paris Nova Meetup, “*What is AI and its impact on the society*”, attended by 30 people from industry.
- November 2016 Paris Deep Learning Meetup, “*Transfer learning for image classification*”, attended by 100 people from industry. [Post]

- September 2016 Paris Machine Learning Meetup, “*Winner of the satellite imagery challenge*”, attended by 100 people from industry. [\[Video\]](#)
- September 2016 Interviewed for RSNL blog of Microsoft. [\[Post\]](#)
- July 2016 Interviewed for Zelros AI blog. [\[Post\]](#)

## PUBLICATIONS

(\* equal contribution, order was assigned randomly)

### Double-blind, peer-reviewed conference articles (acceptance rate 15-30%)

1. [R. Cadene\\*](#), C. Dancette\*, H. Ben-Younes, M. Cord, D. Parikh, “*RUBi: Reducing Unimodal Biases for Visual Question Answering*”, Neural Information Processing Systems (**NeurIPS**), 2019.  
[\[Paper\]](#) [\[Code\]](#)
2. [R. Cadene\\*](#), H. Ben-Younes\*, M. Cord, N. Thome, “*MUREL: Multi-step Relational Reasoning for Visual Question Answering*”, IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019.  
[\[Paper\]](#) [\[Code\]](#)
3. H. Ben-Younes, [R. Cadene](#), N. Thome, M. Cord, “*BLOCK: Bilinear Superdiagonal Fusion for Visual Question Answering and Visual Relationship Detection*”, AAAI Conference on Artificial Intelligence (**AAAI**), 2019.  
[\[Paper\]](#) [\[Code\]](#)
4. M. Carvalho\*, [R. Cadene\\*](#), D. Picard, L. Soulier, N. Thome, M. Cord, “*Cross-model retrieval in the cooking context: Learning semantic text-image embeddings*”, ACM Conference on Research and Development in Information Retrieval (**SIGIR**), 2018.  
[\[Paper\]](#) [\[Code\]](#)
5. H. Ben-Younes\*, [R. Cadene\\*](#), N. Thome, M. Cord, “*MUTAN: Multimodal Tucker Fusion for Visual Question Answering*”, International Conference on Computer Vision (**ICCV**), 2017.  
[\[Paper\]](#) [\[Code\]](#)

### Journals

6. S. Bianco, [R. Cadene](#), L. Celona, P. Napoletano, “*Benchmark Analysis of Representative Deep Neural Network Architectures*”, IEEE Access, 2018.  
[\[Paper\]](#) [\[Code\]](#)

### Conference articles

7. [R. Cadene](#), M. Carvalho, H. Ben-Younes, T. Robert, M. Cord, “*Bootstrap.pytorch*”, Pytorch Conference, 2018.  
[\[Poster\]](#) [\[Code\]](#)

### Workshop articles

8. [R. Cadene\\*](#), H. Ben-Younes\*, N. Thome, M. Cord, “*VQA Challenge - Block Superdiagonal Fusion*”, Workshop on Visual Question Answering, in conjunction with CVPR 2018.
9. M. Carvalho\*, [R. Cadene\\*](#), D. Picard, L. Soulier, M. Cord, “*Images & Recipes: Retrieval in the cooking context*”, Workshop on Data Engineering meets Intelligent Food and Cooking, in conjunction with ICDE 2018.  
[\[Paper\]](#) [\[Code\]](#)

10. [R. Cadene\\*](#), H. Ben-Younes\*, N. Thome, M. Cord, “*VQA Challenge - MUTAN 2.0: Multimodal Tucker Fusion for Visual Question Answering*”, Workshop on Visual Question Answering, in conjunction with CVPR 2017.  
[\[Poster\]](#) [\[Code\]](#)
11. [R. Cadene](#), T. Robert, N. Thome, M. Cord, “*M2CAI Challenge: ConvNets for Video Frames Classification*”, Workshop and Challenges on Modeling and Monitoring of Computer Assisted Interventions, in conjunction with MICCAI 2016.  
[\[Poster\]](#) [\[Code\]](#)

### **Technical Reports**

12. [R. Cadene](#), “*Deep Learning and Image Classification on a Medium Dataset of Cooking Recipes*”, Sorbonne University Internship Report, 2015.  
[\[Paper\]](#)

### **Master Thesis**

13. [R. Cadene](#), “*Deep Learning for Visual Recognition*”, Master Thesis, Computer Science Department, Sorbonne University, 2016.  
[\[Paper\]](#) [\[Code\]](#)