Michaël **Ramamonjisoa**

PhD Student in Computer Vision and Deep Learning

5 place de Rungis, 75013 Paris (France) | French

+ 33 6 61223866 | ramamonjisoa.michael@gmail.com | MichaelRamamonjisoa

Education

Ecole Normale Supérieure Paris-Saclay
Cachan (Paris area), France

Master's degree - Mathématiques Vision Apprentissage (MVA)
2017 – 2018

- **3D Computer Vision** (R. Marlet, P. Monasse, M. Aubry) ; **Audio signal Analysis, Indexing and Transformations** (R. Badeau, G. Richard) ; **Introduction to Digital Imaging** (J. Delon, Y. Gousseau) ; **Object Recognition and Computer Vision** (I. Laptev, J. Ponce, C. Schmid, J. Sivic) ; **Speech and Language Processing** (E. Dupoux, B. Sagot, N. Zeghidour) ;
- **High Dimension Statistical Learning** (S. Mallat) ; **Convex Optimization** (A. D'Aspremont) ; **Deep Learning** (V. Lepetit) ; **Kernel Methods for machine learning** (J. Mairal, J-P. Vert) ; **Probabilistic Graphical Models** (F. Bach, G. Obozinski) ; **Unsupervised Learning** (R. Vidal)

Projects :
Unsupervised Learning : Low Rank Matrix Completion, Face Clustering (Matlab)
Object Recognition and Computer Vision : Training CNNs using synthetic images of people (Torch, Python, Blender)
Introduction to Digital Imaging: Texture Synthesis using CNNs (Caffe, Python)

Imperial College London
London, United Kingdom

MSc Optics and Photonics
2013 – 2014

- Double degree in engineering with IOGS
- **Optics**, **Photonics**, **Information theory**, **Biophotonics**

Institut d'Optique Graduate School Paristech (IOGS)
Palaiseau (Paris area), France

Grande Ecole - 3rd year abroad
2011 – 2014

- Engineering Diploma
- **Optics**, **Signal and image processing**, **Electronics**, **Physics**

Professional experience

Laboratoire Bordelais de Recherche en Informatique
Bordeaux, France

PhD Student
Oct. 2018 – today (9 months)

Disentangling for Scene Understanding from Images – Supervisor: Prof. Vincent Lepetit

1^{st} place at admission exam of Ecole Doctorale de Mathématiques et d'Informatique

Prophesee (formerly Chronocam)
Paris, France

Intern
Avril – sept. 2018 (5 mois)

Double Frequency Tracking Using Event-Based Cameras

HGH Systèmes Infrarouges
Igny (91), France

Project Engineer
Janv. 2015 – sept. 2017 (2 ans et 9 mois)

- Manager of the infrared testing software (Infratest) of HGH: designed signal and image processing algorithms for optronics systems

Thalès Research & Technology
Palaiseau, France

Intern
Juin – nov. 2014 (6 mois)

Optical Design of a Lidar; signal processing for imaging on Matlab

ONERA (The French Aerospace Lab)
Palaiseau, France

Intern
Mai – juil. 2013 (3 mois)

Designed a 3D-model of an urban area using Cinema 4D, then tested ONERA's Radar imaging algorithms on the 3D model

Publications

- G. Pitteri, M. Ramamonjisoa, V. Lepetit, **On Object Symmetries and 6D Pose Estimation from Images**, *2019 International Conference on 3D Vision (3DV)*, 2019
- M. Ramamonjisoa, V. Lepetit, **SharpNet: Fast and Accurate Recovery of Occluding Contours in Monocular Depth Estimation**, *arXiv preprint arXiv:1905.08598*, 2019
- C. Barrat, T. Lepot, M. Ramamonjisoa, S. Fradcourt, **Extension to NIR and visible ranges of high-resolution relative spectral response measurement using Fourier Transform Infrared Spectrometer (FTIR) of CMOS FPAs**, *Proc. SPIE 10433*, Electro-Optical and Infrared Systems: Technology and Applications XIV, 1043316 (6 October 2017); doi: 10.1117/12.2278301
- C. Barrat, T. Lepot, M. Ramamonjisoa, S. Fradcourt, **A practical implementation of high resolution relative spectral response measurement of CMOS IRFPAs using Fourier Transform Infrared Spectrometer (FTIR)**, *Proc. SPIE 9987*, Electro-Optical and Infrared Systems: Technology and Applications XIII, 99870V (21 October 2016); doi: 10.1117/12.2242014

Teaching

- **Numerical Methods**, 1st year of Master practical sessions, Institut d'Optique Graduate School
- **Artificial Intelligence**, 1st year of Master practical sessions, Université de Bordeaux
- **Deep Learning**, 1st year of Master practical sessions, Bordeaux INP

Relevant skills

- **Computer skills**: Python, C++, Matlab, Pytorch, Keras, Tensorflow, Unix shell, Cinema 4D, Blender, SolidWorks, LaTeX
- **Languages**: French (native); English (fluent, TOEFL 108/120); Spanish (conversational); Malagasy (basic skills); Mandarin (basic skills)