Antoine Collas

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Last Updated on 29th July 2024

ABOUT ME

Address:
Sceaux (Paris area) - France
Age:
28
Nationality:
French
Languages:
French (mother tongue),
English (proficient).

LINKS

github.com/antoinecollas
linkedin.com/in/antoinecollas
x.com/antoinecollas

RESEARCH INTERESTS

Applied mathematics, machine learning and signal processing:

- Optimization
- Statistical estimation (covariance, subspace, ...)
- Riemannian geometry
- Domain adaptation
- Time series analysis

Applications:

- Remote sensing: hyperspectral and SAR images
- Biosignals: M/EEG and fMRI data

TECHNICAL SKILLS

Machine learning and scientific computing:
Python • PyTorch • Tensorflow • scikit-learn • Matlab • R

Version control: Git

Cloud computing: AWS • GCP

Other: LaTeX • C++ • SQL ...

REFERENCES

Alexandre Gramfort:
agramfort@meta.com
Rémi Flamary:
remi.flamary@polytechnique.edu
Jean-Philippe Ovarlez:
jeanphilippe.ovarlez@centralesupelec.fr
Guillaume Ginolhac:
guillaume.ginolhac@univ-smb.fr

PROFESSIONAL EXPERIENCE

Postdoctoral researcher, MIND team, INRIA Saclay

Supervisors: Bertrand Thirion, Alexandre Gramfort, Rémi Flamary
November 2022 - Present | Gif-sur-Yvette - France

- MIND Team (ex-Parietal): machine learning applied to neuroimaging data
- Subject: domain adaptation using Riemannian geometry
- Applications: M/EEG and fMRI data (biosignals)
- Publications: 2 conference, 2 journal, 4 preprints, 1 book chapter, 1 software
- Supervision of 2 PhD students

Lecturer, at CentraleSupélec and University Paris-Saclay

November 2020 - Present | Gif-sur-Yvette - France

- Teaching at graduate level
- Digital Signal Processing (Fourier analysis, statistical estimation, ...); Optimization (convex optimization, linear programming, ...)

R&D intern, Safran Electronics & Defense

February 2019 - July 2019 | 6 months | Eragny, France

- Deep learning for computer vision
- Object detection and style transfer

EDUCATION

PhD, SONDRA, CentraleSupelec

Directors: J.-P. OVARLEZ, G. GINOLHAC,
Supervisors: C. REN, A. BRELOY, F. BOUCHARD
October 2019 - November 2022 | Gif-sur-Yvette, France

- Subject: Riemannian geometry for statistical estimation and learning
- Topics: statistics, optimization and machine learning
- Applications: hyperspectral and SAR (radar) images
- Publications: 4 conference and 3 journal papers
- "Best Student Paper Award" at the EUSIPCO 2022 conference

Master, University of Technology of Compiègne - UTC

Engineering school
September 2014 - July 2019 | Compiègne, France

- Master in Computer Science with a minor in Applied Mathematics

University of Shanghai - UTSEUS

January 2016 - July 2016 | 6 months | Shanghai, China

- One abroad semester in China studying Computer Science

SOFTWARE & COMPETITIONS

SKADA maintainer 2023 - Present

- Python libraries for domain adaptation compatible with scikit-learn

Pymanopt maintainer and Geomstats contributor 2020 - Present

- Python libraries for optimization and machine learning on manifolds

Kaggle: Gendered pronoun resolution 2019

- Competition of NLP on a coreference problem. Result: 31/838

Kaggle: Recursion Cellular Image Classification 2019

- Competition of computer vision on a coreference problem. Result: 42/865