# Bastien Cagna
## AI Engineer in Medical Imaging



## Contact Details

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## Education

### MSc in Signal, Image, Telecomunnation
Signal and image processing, machine learning, electronics
Grenoble INP Phelma

### DUT - IT and Electrical engineering
2 years of technical studies in IT, electronics, lectromechnics, signal processing, automation
Aix-Marseille University

### Bac S (A levels)
opt. Physic-Chimestry
Lycée L'Empéri, Salon-de-Pce

### Languages
Frenh: Motherthong
English: Fluent

## Hobbies

🥁 Music

🔨 DIY

🏢 Voluntary works:
Co-ownership trustee
Cultural events

## Skills

### Data Science
Classical machine learning
Deep learning
Statistics, RSA, PCA
Filtrering, Morphology
Visualization (Plots, 3D)
Reporting / Scientific communication

### Medical Imaging
MRI preprocessing
Brain segmentation
fMRI analysis
Anonymisation

### Software Engineering
Languages: Python, Javascript, Matlab
Databases: SQL, MongoDB
Tools: Git, Continous Integration, Unitary tests, Jupyter notebooks
Frameworks: Pytorch, Scikit learn, numpy, pandas, matplotlib, FastAPI, React, Pipelining (NiPype)

## Professional Experiences

### Neuro-imaging and AI engineer                Oct. 2020 - Sept. 2023
Neurospin, Commissariat à l'Energie Atomique (CEA), Saclay
Enhance brain sulci segmentation and labelling with deep learning tools. Study specifically the use of ensemble knowledge distilation and active learning. Organize the data for the team. Participate and present scientific publication in several conferences.

### Neuro-imaging engineer                Dec. 2016 - Sept. 2020
Institut des Neurosciences de la Timone, Aix-Marseille University, Marseille
fMRI preprocessing and analysis with linear modeling and classical machine learning. Development of Macapype, a python package that provides several preprocessing pipeline using commonly used MRI processing softwares.

### (Internship) Decoding neural activity evoked by a retinal implant in rat                March - August 2016
Institut des Neurosciences de la Timone, Université Aix-Marseille, Marseille
Bechmarking of classical machine learning methods to decode cerebral activation on optical imaging of occipital lobe during retinal stimulation in rat.

### (Internship) Optical guidance solution for drones                Mai - July 2015
Novadem, Aix-en-Provence
Development of an optical infra-red based positionning system for drones.
Embedded system (C), simulation (Matlab) and GUI (Qt, C++).

### (Internship) Simulation of control loops mechanisms  Avril - June 2013
Northumbria University, Newcastle, UK
Build simulations of classical control loops in Matlab.

## References

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