

# LEFORT-BESNARD Jérémy

Behavioral Informatics and Interaction Computation lab  
National Tsing Hua University,  
Hsinchu, Taiwan (R.O.C.)  
Github.com/JLefortBesnard ♦ Twitter.com/JLefortBesnard  
jlefortbesnard@tuta.io ♦ https://jlefortbesnard.github.io

#PythonProgramming #MachineLearning #ClinicalData

## EDUCATION

2015-2019	<b>Ph.D</b> in computational neuroscience (Magna Cum Laude) Supervision: Prof. Danilo Bzdok, RWTH University Prof. Danielle S. Bassett, UPENN Scholarship: International Research Training Group (DFG-IRTG 2150)	<i>RWTH Aachen University, Germany</i>
2015	<b>Master</b> "Neurosciences, Cognition and Psychology" (with honors) <b>Psychologist title</b> , supervision by the Master "Child psychology"	<i>University of Tours, France</i>
2013	<b>Bachelor</b> in Psychology (with honors)	<i>Bucknell University, USA and University of Tours, France</i>

## SELECTED PUBLICATIONS

### - Peer reviewed journal -

**Lefort-Besnard J.**, Vogeley K, Schilbach L, Varoquaux G, Thirion B, Dumas G, Bzdok D. Patterns of Autism Symptoms: Hidden Structure in the ADOS and ADI-R instruments. Submitted 2020.

**K-means clustering, sparse logistic regression, bootstrap confidence interval**

Input data: clinical questionnaire's scores, demographic data

**Lefort-Besnard J.**, Varoquaux G., Derntl B., Gruber O., Aleman A., Jardri R., Sommer I., Thirion B., Bzdok D. Patterns of Schizophrenia Symptoms: Hidden Structure in the PANSS Questionnaire. *Translational Psychiatry*. 2019

**Ridge Regression, SVM, PCA, Random Forest, kNN, Adaptive Boosting**

Input data: clinical questionnaire's scores, demographic data

OHBM 2019 Roma abstract presentation

**Lefort-Besnard J.**, Bassett S.D., Smallwood J., Margulies S.D., Derntl B., Gruber O., Aleman A., Jardri R., Varoquaux G., Thirion B., Eickhoff B.S., Bzdok D. Different shades of default mode disturbance in schizophrenia: Subnodal covariance estimation in structure and function. *Human Brain Mapping*. 2017. 39:644-661

**Sparse Inverse Covariance, Lasso, Hypothesis Testing**

Input data: fMRI (time-series), MRI (voxels), demographic data

OHBM 2018 Singapor abstract presentation + awarded of the DAAD travel grant

### - Conference paper -

**Lefort-Besnard J.**, Wan-Ting Hsieh, Hao-Chun Yang, Li-Wei Kuo, Chi-Chun Lee. Behavior Score-Embedded Brain Encoder Network for Improved Classification of Alzheimer Disease Using Resting State fMRI. *IEEE EMBC 2020*.

**Convolutional Neural Network, Autoencoder, SVM, Ridge Regression, SVM, PCA, Random Forest, kNN, Adaptive Boosting**

Input data: fMRI (time-series), clinical questionnaire's scores, demographic data

42<sup>nd</sup> Annual International Conference IEEE EMBC 2020 Montreal presentation

### - Recently submitted -

Chechko N, **Lefort-Besnard J.**, Eickhoff S, Stickel S, Goecke T, Frensch M, Habel U, Lang J, Bzdok D. Restless legs syndrome in pregnancy: Striatum structure explains most behavioral differences. Submitted 2020.

**Canonical Correlation Analysis, Ridge regression**

Input data: clinical questionnaire's scores, demographic data

Pfundmair M, **Lefort-Besnard J.** Identifying predictive features of islamist radicalization. Submitted 2020.

**Sparse logistic regression, Confusion matrix, nested cross validation**

Input data: demographic data from German police office

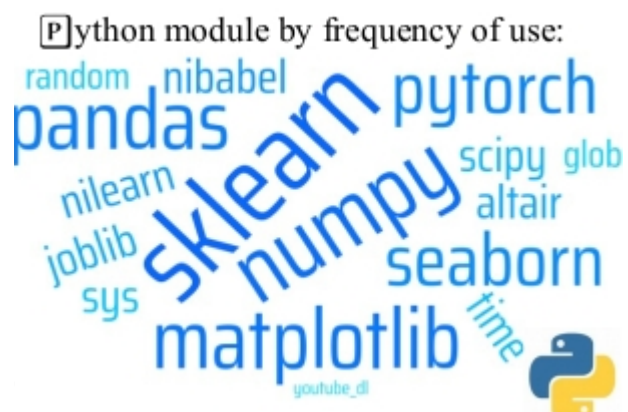
## RELEVANT EXPERIENCE

Since 2019 **POSTDOCTORAL RESEARCHER** on learning predictive models based on behaviors, brain-region and brain-network priors  
NTHU, Taiwan

2020	<b>Project presentation</b> IRTG 2150 conference	RWTH Aachen, Germany
2020	<b>Teacher</b> "HTML, CSS and JS"	NTHU, Taiwan
2019	<b>Sys Admin</b> Gitlab instance on Ubuntu server	NTHU, Taiwan
2018+2019	<b>Teacher</b> "Using Git, Github and creating a science portfolio"	RWTH Aachen, Germany, NTHU, Taiwan
2018	<b>Hackaton</b> Focus on Pytorch	Zurich, Swiss
2018	<b>Project presentation</b> IRTG 2150 conference	RWTH Aachen, Germany
2018	<b>Poster Presentation</b> OHBM conference	Suntec, Singapore
2017+2018	<b>Teacher assistant</b> "Machine learning crash course"	RWTH Aachen, Germany
2017+2018	<b>Teacher</b> "Introduction to Python"	RWTH Aachen, Germany
2017	<b>Hackaton</b> Focus on Pycortex and Pandas hacks	Max Plank Leipzig
2017	<b>Project Presentation</b> IRTG 2150 conference	UPENN, USA
Since 2016	<b>Blog</b> <a href="https://losangebleu.site">https://losangebleu.site</a> scripted from scratch using html/CSS/JS/PHP + MySQL/phpMyAdmin	

## SKILLS & OTHER RELEVANT EXPERIENCES

Numbers	Machine learning/Statistics
Research	Brain imaging, psychiatry, quantitative neuroscience, personalized medicine
Computer	Python, R, Matlab, SPSS, Bash scripts, VirtualBox
Website	HTML, CSS, JS, PHP, MySQL, phpMyAdmin
OS	Linux, Mac, Windows
Version control	Git, Github, Gitlab
Editor	Markdown, Latex, Jupyter, VIM, GIMP, Office
Communication	Slack, Mattermost,
Language	French native, English full working proficiency, some German and Chinese
2013-2015	Founder and President of ESN Tours (10.000 Euros annual budget)
Since 2016	Writer on Quora @Jeremy-Lefort-Besnard (500.000 content views in English, 250.000 in French, 700 followers)
Hobbies	I try to run a marathon every 3 years, hiking, free (libre) softwares, volunteering



Brain computed using the wordcloud package with my publications as input  
([https://github.com/JLefortBesnard/Brain\\_filled\\_with\\_words](https://github.com/JLefortBesnard/Brain_filled_with_words))