AURELIEN APPRIOU

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WORK EXPERIENCE

PhD Student - Inria — **France** — **From 2017 (32 months)**

Estimating learning-related mental states from brain and physiological signals. Studied Machine Learning algorithms to estimate cognitive workload/affective states. Currently studying curiosity through EEG and physiological signals

Research Assistant - UC San Diego — **USA** — **2020 (3 months)**

Studied Deep Learning methods to classify cognitive states and curiosity levels from ERP-based EEG signals

Research Assistant - Riken — **Japan** — **2020 (3 months)**

Implemented a python library (BCPy) for decoding EEG signals offline. Studied machine learning algorithms for mental workload levels classification.

Data Scientist - Homeloop — **France** — **2017 (3 months)**

Implemented algorithms for pricing Parisian flats, to then buy it in less than 48 hours (Python)

Data Engineer - Greenpeace — **France** — **2017 (5 months)**

Implemented an algorithm for structuring, cleaning, and using data for donators profiling (R)

Data Engineer - Braincities — **France** — **2016 (5 months)**

Implemented a career-path prediction algorithm (Python)

PhD Student - Vrije Universiteit Brussels — **Belgium** — **2016 (8 months)**

Emergence of both social interaction gesture and natural language understanding in robotics (Lisp, Python)

Research Assistant - UC Berkeley — **USA** — **2015 (8 months)**

Implemented a system supporting natural language understanding for controlling multiple simulated robots (Python)

Research Assistant - Inria — **France** — **2014 (3 months)**

Developed an experimental protocol for estimating visual comfort with stereoscopic displays in EEG signals

Research Assistant – CHEO Ottawa — **Canada** — **2012 (3 months)**

Developed GUIs for the psychiatric department, to improve a computerized management system (Visual Basic)

EDUCATION

University of Quebec, Montreal — **Canada** — **2014-2015**

Graduate courses in computer science & Artificial Intelligence

University of California, Berkeley — **USA** — **2013-2014**

Graduate courses in computer science & Artificial Intelligence

University of Bordeaux — **France** — **2013-2015**

Master's degree in Cognitive Science, with honors

University of Bordeaux — **France** — **2012-2013**

B. S. in MASS (Mathematics and Computer Science for Social Science) Cognitive speciality, with honors

University of Vannes — **France** — **2010-2012**

Implemented an algorithm for structuring, cleaning, and using data for donators profiling (R)

University of Rennes — **France** — **2010-2012**

Bachelor degree in Psychology

SKILLS

Computer Science & Statistics

Python, Visual Basic, C#, Java, Scheme, Lisp, Matlab, Scilab, R, SAS, SQL, SPSS, SPAD, access

Cognitive Science and Artificial Intelligence

Memory – Machine Learning – Deep Learning – Natural Language Processing – Automated Planning – Languages & Mind – Neurosciences

Statistics & Mathematics

Time series – Hypothesis Test – DataMining – Simple and Multiple Regression – Surveys – Estimation – Markov Decision Process – Algebra – Analysis – Biomathematics

Languages

French: fluent English: fluent German: conversational

ABOUT ME

Sport Activity

Cross-Country**: 4-time champion of France**
Swimming**: 3-time champion of France**
Triathlon: currently a member of the Girondins de Bordeaux Triathlon team, specialized in ironman 70.3

Association Activity

Vice-president of the Vannes Student Association (2011-2012) Member of Asco-Ergo (cognitive science student association)_ Director of 2 short films for 4 Arbres, a theater association

Philanthropy

Raced in the 4L Trophy, the largest rally in Europe, and helped raise over 7,000€ towards supplying educational material for underprivileged Moroccan students.

PUBLICATIONS

Journals

- Appriou A., Pillette L., Dutartre D., Cichocki A., Lotte F., « BioPyC, an open-source python platform for offline electroencephalographic and physiological signals classification » - *Submitted at Neuroinformatics*
- Appriou A., Cichocki A., Lotte F., (2020) « Modern machine learning algorithms to classify cognitive and affective states from electroencephalography signals » IEEE Systems, Man and Cybernetics Magazine
- Frey J., Appriou A., Lotte F., Hachet M., (2015) « Classifying EEG Signals during Stereoscopic Visualization to Estimate Visual comfort », Computational Intelligence and Neuroscience

Conference papers with reviewing comity and oral presentation

- Appriou A., Ceha J., Pramij S., Dutartre D., Law E., Oudeyer P.-Y., Lotte F., « Towards measuring states of epistemic curiosity through electroencephalographic signals » - *Submitted at IEEE SMC Conference*
- Sadatnejad K., Roc A., Pillette L., Appriou A., Monseigne T., Lotte F., (2020) « Channel Selection over Riemannian Manifold with Non-Stationarity Consideration for Brain-Computer Interface Applications », IEEE Iternational Conference on Acoustics, Speech and Processing
- Frey J., Appriou A., Lotte F., Hachet M., (2015) « Estimating Visual Comfort Stereoscopic Displays Using Electroencephalography: A proof-of-concept », Interact
- Trott S., Appriou A., Feldman J., Janin A., (2015) « Natural Language Understanding and Communication for Multi-Agent Systems », AAAI, Orlando, Florida

Conference papers with reviewing comity and poster presentation

- Appriou A., Ceha J., Pramij S., Dutartre D., Law E., Oudeyer P.-Y., Lotte F., « Towards measuring states of curiosity through electroencephalographic signals » (1 page abstract) - *Submitted at CORTICO Conference*

- Appriou A., Cela J., Law, Edith, Oudeyer P-Y, Lotte F., (2019) « Towars Measuring states of curiosity through Electroencephalography and body sensors », CORTICO, Lille, France (1 page abstract)
- Pillette, L., Appriou, A., Cichocki, A., N'Kaoua, B., & Lotte, F. (2018) « Classification of attention types in EEG signals », International BCI Meeting, Asilomar, United States (2 pages abstract)
- Appriou, A., Pillette, L., Cichocki, A., & Lotte, F. (2018) « BCPy, an open-source python platform for offline EEG signals decoding & analysis », International BCI Meeting, Asilomar, US (2 pages abstract)
- Appriou A., Cichocki, A., Lotte, F., (2018) « Towards Robust Neuroadaptative HCI: Exploring Modern Machine Learning Methods to Estimate Mental Workload From EEG Signals », ACM CHI Conference on Human Factors in Computing Systems - Late Breaking Work - Montreal, Canada (6 pages)
- Appriou A., Lotte F., (2018) « Analysis and classification of learning-related mental states in EEG signals », CORTICO, Toulouse, France (1 page abstract)