

Jérémy Frey

Researcher in computer science

contact

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languages

French: mother tongue
English: fluent
Spanish: basic

programming

object-oriented (Java, C++, C#)
multi-paradigm (python, JS)
imperative (C, Pascal)
functional (Lisp)
logic (Prolog)

skills

HCI (3DUI, TUI, VR, ...)
brain-computer interface
physiological computing
signal processing
machine learning
statistics
ergonomics
artificial cognition
natural language processing
SQL
unix
wearables
DIY enthusiast

hobbies

literature
photography
martial arts (pencak-silat)
swimming, running

interests

I explore how physiological computing can contribute to human-computer interaction and foster new communication channels among the general public. I came to think that the purpose of those technological artifacts is to enhance well-being and facilitate human relationships on the whole. Or at least this is the path into which I try to venture, hacking my way.

I currently hold a position of teaching assistant (ATER) in the university of Bordeaux and I work in Inria as a member of the Potioc research team.

education

2015	PhD Computer Science	University of Bordeaux
“Leveraging human-computer interactions and social presence with physiological computing”. Advisors: Martin Hachet & Fabien Lotte. Research team: Potioc (Inria)		
2011	Master Cognitive Science	University of Bordeaux
With honors, ranked second		
2009	Bachelor Computer Science	University of Bordeaux

internships

2015	Combining head-mounted displays with EEG	Musae Lab, INRS, Montreal
Supervisor: Tiago H. Falk. Duration: 2 months.		
2011	Investigation of cognitive and motor deficits in a robot-embodied model of the basal ganglia	IMN (institute of neurodegenerative diseases), University of Bordeaux
Supervisor: André Garenne. Duration: 10 months.		
2010	Conditioning robots	EA-487 laboratory, University of Bordeaux
Supervisor: Jean-Marc Salotti. Duration: 10 weeks.		

reviewing

Transactions on Computational Intelligence and AI in Game; Pattern Recognition; ACM Journal on Computing and Cultural Heritage; Affective Computing and Intelligent Interaction; ACM CHI

supervision

2015	Maxime Daniel	M.S. computer science, 2nd year, University of Bordeaux
Create a virtual environment that could validate the use of electroencephalography as an evaluation tool for 3D interactions. Duration: 6 months. Co-supervising with Immersion company.		
2015	Maxime Duluc	last year in engineering school “Institut d’Optique Graduate School”
Objective: create an instrumented version of the tangible interface of electroencephalographic signals’ visualization “Teegi”. Duration: 6 months.		
2015	Alexis Gay	M.S. design, 2nd year, University Bordeaux Montaigne
Objective: co-designing a tangible representation of inner states, “Tobe”. Duration: 2 months. Co-supervising.		
2014	Aurélien Appriou	M.S. cognitive science, 1st year, University of Bordeaux

Objective: investigate the use of a brain-computer interface as a real-time measuring tool of visual comfort during the viewing of stereoscopic images. Duration: 2 months.

2013

Léonard Pommereau

M.S. cognitive science, 1st year, University of Bordeaux

Objective: establish a protocol that could be used to evaluate visual comfort during the viewing of stereoscopic images using electroencephalography. Duration: 2 months.

teaching

M.S. 1st year **Software engineering**

University of Bordeaux

59 hours

B.S. 3rd year **Network and object oriented programming**

University of Bordeaux

64 hours

B.S. 1st year **Programming**

University of Bordeaux

60 hours

B.S. 1st year **Office applications**

University of Bordeaux

13.33 hours

publications

articles in peer-reviewed journals

Classifying EEG Signals during Stereoscopic Visualization to Estimate Visual Comfort

Jérémy Frey, Aurélien Appriou, Fabien Lotte, Martin Hachet

Computational Intelligence and Neuroscience (2016). 2016

international peer-reviewed conferences/proceedings

Tobe: Tangible Out-of-Body Experience

Renaud Gervais, Jérémy Frey, Alexis Gay, Fabien Lotte, Martin Hachet

TEI - ACM Conference on Tangible, Embedded and Embodied Interaction, 2016

Framework for electroencephalography-based evaluation of user experience

Jérémy Frey, Maxime Daniel, Julien Castet, Martin Hachet, Fabien Lotte

CHI - ACM Conference on Human Factors in Computing Systems, 2016

Heart Rate Monitoring as an Easy Way to Increase Engagement in Human-Agent Interaction

Jérémy Frey

PhyCS - International Conference on Physiological Computing Systems, 2015

Continuous Mental Effort Evaluation during 3D Object Manipulation Tasks based on Brain and Physiological Signals

Dennis Wobrock, Jérémy Frey, Delphine Graef, Jean-Baptiste Rivière, Julien Castet, Fabien Lotte

INTERACT '15, 2015

Pointing in Spatial Augmented Reality from 2D Pointing Devices

Renaud Gervais, Jérémy Frey, Martin Hachet

INTERACT '15, 2015

Estimating Visual Comfort in Stereoscopic Displays Using Electroencephalography: A Proof-of-Concept

Jérémy Frey, Aurélien Appriou, Fabien Lotte, Martin Hachet

INTERACT '15, 2015

Review of the use of electroencephalography as an evaluation method for human-computer interaction

Jérémy Frey, Christian Mühl, Fabien Lotte, Martin Hachet

PhyCS - International Conference on Physiological Computing Systems, 2014

Teegi: Tangible EEG Interface

Jérémy Frey, Renaud Gervais, Stéphanie Fleck, Fabien Lotte, Martin Hachet

UIST - ACM User Interface Software and Technology Symposium, 2014

Assessing the zone of comfort in stereoscopic displays using EEG

Jérémy Frey, Leonard Pommereau, Fabien Lotte, Martin Hachet

CHI EA - ACM Conference on Human Factors in Computing Systems Extended Abstracts, 2014

book chapters

Raphaëlle N. Roy, Jérémy Frey. “Neurophysiological markers for passive BCIs (in press)”. In: *Brain Computer Interfaces: Methods, Applications, Perspectives*. Wiley-ISTE, 2015. ISBN: 978-1-84821-826-0.

scientific outreach

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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 2015 | Demonstration of “Teegi” during “robot maker's day” | ENSEIRB-MATMECA graduate school, Bordeaux |
| 2015 | Demonstration of “Teegi”, a tangible interface for electroencephalographic signals' visualization | IIT Techfest festival, Mumbai, India |
| 2014 | Participation to the film debate “ExistenZ : faut-il avoir peur de la réalité virtuelle ?” | University of Bordeaux cultural service |
| 2013 | Accompanying high-school students during a laboratory visit for “Fête de la science” | Bordeaux |
| 2013 | Conference and panel “L'homme 'augmenté': notre avenir est-il 'cyborg' ?” | “Nancy Renaissance” event, Nancy |
| 2013 | Conference “Demain les objets sont connectés ! – L'activité cérébrale pilote directement l'ordinateur : présentation de l'interface cerveau-ordinateur” | “Semaine Digitale” event, Bordeaux |
| 2013 | Animating a workshop about brain-computer interfaces for high-school students | Bordeaux |
| 2013 | Animating a stand presenting Inria research institute | “Aquitec” event, Bordeaux |
| 2012 | Interview with high-school students about tactile interfaces | Bordeaux |