

Grégoire RICHARD

4 Rue des Augustins
59800 Lille, France
Tel: +33 (0)6 37 20 69 59
Mail: gregoire.richard@gadz.org
27 yrs old



Looking for a post-doctorate position in VR and interactions

EDUCATION

- 2019-2023 **Ph.D.** in Computer Science, at CRISTAL-Inria, University of Lille, France
Touching Avatars : Role of haptics in avatar-based interactions in Virtual Reality
Supervised by : Géry Casiez, Thomas Pietrzak, Anatole Lécuyer, Ferran Argelaguet
- 2015-2019 **Master's Degree**, Computer Science and Interactive Technologies, Laval Virtual Center, France (53)
Engineering Degree, Arts et Métiers ParisTech, Generalist State engineering school – France (71)
- 2013-2015 Undergraduate **preparatory classes, Mathematics and Physics**, Lycée Lakanal de Sceaux, France (92)

WORK HISTORY

- 2022-2023 **ATER**, Temporary assistant teacher, University of Lille, France - **192 hours**
Introductory courses to **algorithmic, Java, database**
- 2021-2022 Teaching as a **Ph.D. student** – Université de Lille (**128 heures équivalent TD**)
Cours d'introduction à l'IHM (*Java-Javafx*) / Cours d'initiation à la programmation (*Java*)

PUBLICATIONS

- 2022 **Richard, G.**, Pietrzak, T., Argelaguet, F., Lécuyer, A., & Casiez, G. (2022, March).
[Within or Between? Comparing Experimental Designs for Virtual Embodiment Studies](#). In *2022 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)* (pp. 186-195). IEEE.
- 2021 **Richard, G.**, Pietrzak, T., Argelaguet, F., Lécuyer, A., & Casiez, G. (2021).
[Studying the role of haptic feedback on virtual embodiment in a drawing task](#). *Frontiers in Virtual Reality*, 1, 28.

SKILLS

- Langues
Français : native
Anglais : Fluent (C1)
Spanish : A2
Japanese : A1
- Langages
Unity/C# : advanced
Python : intermediate
R : intermediate
Java : basic
SQL : basic

RESEARCH EXPERIENCE

During my Ph.D., I was able to explore three different directions of research, summarized below.

- 2021-2022 *Design of a spatialized vibrotactile feedback controller for interaction with immersive virtual environments.*
Work in progress
We started from the observation that most haptic devices are not very versatile in terms of interaction contexts, while virtual reality controllers only offer a quasi-boolean feedback. We wanted to propose a controller that could integrate richer haptic feedback without limiting the possibilities of interaction. We designed a controller to interact in virtual reality, integrating and controlling 10 actuators. The frame of the controller was 3D printed, the electronic board was designed during the project and manufactured in China. We then explored several vibrotactile effects and renderings to guide or enrich the user's experience in interacting with a virtual environment.
- 2020-2021 *Intra Within or Between? Comparing Experimental Designs for Virtual Embodiment Studies.*
[Link to publication](#)
The aim of this project was to provide the scientific community with better tools to design and implement experiments dealing with embodiment in virtual reality. We compared the two main types of experimental protocols (between- and within-subjects) in a visuomotor task in virtual reality. We were also interested in the influence of the sample size on the results.
To do so, we replicated a protocol from the literature, and we tried to obtain a large sample ($n = 92$ participants). We then proposed an innovative approach in our statistical analysis, based on a *Monte Carlo* method, to better understand the impact of sample size on the ability of each protocol to detect existing effects.
- 2019-2020 *Studying the role of haptic feedback on virtual embodiment in a drawing task.*
[Link to publication](#)
There are a large number of technologies that offer haptic feedback. These technologies are more or less adapted according to their context of use.
In this project, we wanted to compare two types of haptic feedback that are widely used, in an ecological context in virtual reality.
We used a force feedback arm to implement kinesthetic feedback, to which we added a vibrator to implement vibrotactile feedback.

REVIEWS

- 2023 **IEEE VR Conference Papers** – review of an article for the conference main session
- 2022 **IEEE VR Conference Papers** – review of an article for the conference main session
- 2021 **CHI Interactivity** – review of an article for the conference demos session
- 2021 **CHI** – review of an article for the conference main session
- 2020 **CHI Interactivity** – review of an article for the conference demos session