

JULIA CHATAIN

Researcher in Computer Science and Learning Sciences

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EXPERIENCE

Doctoral Student

ETH Zurich

📅 July 2019 – January 2023

📍 Zurich, Switzerland

- Supervised by Prof. Dr. Robert W. Sumner (Game Technology Center) and Prof. Dr. Manu Kapur (Professorship for Learning Sciences and Higher Education)
- Exploring the role of concreteness in learning mathematics, and in particular how to ground abstract mathematics with embodied interaction in Virtual Reality
- Head Teaching Assistant for "Computer Science I" and "Data structures and Algorithms" courses

Research Engineer

Game Technology Center, ETH Zurich

📅 March 2017 – June 2019

📍 Zurich, Switzerland

- Developed a visual programming tool to create video games on mobile, presented at the World Economic Forum 2019
- Co-developed a playful Augmented Reality Christmas catalog for Franz Carl Weber
- Co-developed "Gnome Trader", an Augmented Reality trading game for Smart Cities (European Project)

Research Student

Potioc, Inria Bordeaux Sud-Ouest

📅 Sept 2015 – Jan 2017

📍 Bordeaux, France

- Developed Sympapse, a Spatial Augmented Reality tool to let citizens share, through drawings and scribbles, their impression of a city
- Co-developed FlyMap, a Spatial Augmented Reality drone to guide students through the campus of Stanford University by projecting an interactive map on the floor

Software Engineer Intern

Google

📅 July 2016 – Sept 2016

📍 Zurich, Switzerland

- Developed an evaluation tool for a reverse geocoding algorithm

Program Manager Intern

Microsoft

📅 August 2012

📍 Paris, France

- Implemented animations moving on the rhythm of the user's music.

RESEARCH INTERESTS

Human Learning XR

Human Computer Interaction

Embodied Interaction

Embodied Cognition Abstraction

Mathematics Education

SKILLS

Unity C# C++ Java Python R

Photoshop Illustrator InDesign

Student supervision Team management

EDUCATION

Master of Science in Computer Science

École Polytechnique Fédérale de Lausanne

📅 2013 – 2015

📍 Lausanne, Switzerland

Engineering Degree in Computer Science, completed with "Outstanding Investment"

École polytechnique

📅 2010 – 2013

📍 Paris, France

Preparation to "Grandes Écoles", Elite class (MP*), focused on mathematics

Lycée Descartes

📅 2008 – 2010

📍 Tours, France

LANGUAGES

French

English

German



HOBBIES

Traveling Crafting Reading

Brazilian Jiu-Jitsu Video Games

Board Games Blogging

OUTREACH AND VOLUNTEERING

- Web Chair at the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY '21)
- Student Volunteer at the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY '20)
- Promoting Computer Science and Mathematics to young girls and women: Girls Code Too Switzerland, Coding Club des Filles EPFL, Schnupperstudium ETH, Django Girls Bordeaux and Lausanne, etc
- Organizing Game Events for the ETH Game Technology Center and Disney Research Zurich

TRANSFER AND ENTREPRENEURSHIP

- Supervisory board member for Girls Code Too (2021-2022)
- Learning Sciences consultant for Hackworth Ltd (2020-2021)
- Scientific advisor for Enlightware GmbH (2018-2021)
- Computer graphics intern for Fitle (2014)

SUPERVISION

- Martina Kessler - Master Thesis - Feb. 2023 - Playful Experiences with Embodied Interaction in Augmented Reality
- Robin Hänni - Bachelor Thesis - Dec. 2022 - Virtual Reality Cytology Lab for Risk Awareness
- Dominic Weibel - Master Thesis - Sept. 2022 - Co-Designing a Computer Science Learning Game for Girls with Girls
- Bibin Muttappillil - Bachelor Thesis - March 2022 - Design and Evaluation of Embodied Interaction in Virtual Reality for Learning Derivatives
- Bodo Brägger - Master Thesis - Feb. 2022 - Gender Equality in Computer Science: Video Games as Preparation for Future Learning
- Rudolf Varga - Master Thesis - Sept. 2021 - Learning Graph Theory with Embodied Interaction in Virtual Reality
- Luigi Sansonetti - Master Thesis - May 2021 - Mathematics Input for Educational Applications in Virtual Reality
- Virginia Ramp - Master Thesis - Oct. 2020 - Embodied Analysis in Virtual Reality
- Lea Reichardt - Bachelor Thesis - Dec. 2019 - VR Game Prototype for Hand Tracking and Projection

SELECTED PUBLICATIONS

- **Chatain**, Julia, Rudolf Varga, Violaine Fayolle, Manu Kapur, Robert W. Sumner. "Grounding Graph Theory in Embodied Concreteness with Virtual Reality". In Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction. (2023)
- **Chatain**, Julia, Virginia Ramp, Venera Gashaj, Violaine Fayolle, Manu Kapur, Robert W. Sumner, Stéphane Magnenat. "Grasping Derivatives: Teaching Mathematics through Embodied Interactions using Tablets and Virtual Reality". In Interaction Design and Children (IDC'22). (2022)
- Sansonetti, Luigi, Julia **Chatain**, Pedro Caldeira, Violaine Fayolle, Manu Kapur, Robert W. Sumner. "Mathematics Input for Educational Applications in Virtual Reality". In International Conference on Artificial Reality and Telexistence and Eurographics Symposium on Virtual Environments (ICAT-EGVE). (2021)
- **Chatain**, Julia, Danielle M. Sisserman, Lea Reichardt, Violaine Fayolle, Manu Kapur, Robert W. Sumner, Fabio Zünd, Amit H. Bermano. "DigiGlo: Exploring the Palm as an Input and Display Mechanism through Digital Gloves." In Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY '20), November 2-4, 2020, Virtual Event, Canada. ACM, New York, NY, USA, 12 pages. (2020)
- **Chatain**, Julia, Olivier Bitter, Violaine Fayolle, Robert W. Sumner, and Stéphane Magnenat. "A Creative Game Design and Programming App." In Motion, Interaction and Games, pp. 1-6. (2019)