

JULIA CHATAIN

Doctoral student in Computer Science and Learning Sciences

📍 ETH Zurich, Switzerland @ julia.chatain@inf.ethz.ch 🌐 juliachatain.com in linkedin.com/in/julia-chatain-0a1aa660/

EXPERIENCE

Doctoral Student

ETH Zurich

📅 July 2019 – Ongoing 📍 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 Sympase, 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

SUPERVISION

- Bibin Muttappillil - Bachelor Thesis - March 2022 - Design and Evaluation of Embodied Interaction in Virtual Reality for Learning Derivatives
- Bodo Brägger - Master Thesis - February 2022 - Gender Equality in Computer Science: Video Games as Preparation for Future Learning
- Rudolf Varga - Master Thesis - September 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 - October 2020 - Embodied Analysis in Virtual Reality
- Lea Reichardt - Bachelor Thesis - December 2019 - VR Game Prototype for Hand Tracking and Projection
- Jennifer Labun - Matura Project - April 2018 - Entwicklung eines Games in der Erweiterten Realität
- Charles Coeurderoy and Violaine Sudret - Engineering Project - November 2015 - Application mobile intégrant un GPS narratif

PUBLICATIONS

- **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)
- Brock, Anke M., Julia **Chatain**, Michelle Park, Tommy Fang, Martin Hachet, James A. Landay, and Jessica R. Cauchard. "Flymap: Interacting with maps projected from a drone." In Proceedings of the 7th ACM International Symposium on Pervasive Displays, pp. 1-9. (2018)
- **Chatain**, Julia, Anke Brock, and Martin Hachet. "SyMAPse: Design and Evaluation of an Augmented Reality Map." (2016)
- **Chatain**, Julia, Marie Demangeat, Anke M. Brock, Didier Laval, and Martin Hachet. "Exploring input modalities for interacting with augmented paper maps." In Proceedings of the 27th Conference on l'Interaction Homme-Machine, pp. 1-6. (2015)
- **Chatain**, Julia. "SyMAPse: Augmented Interactive Maps for Subjective Expression." (2015)