


# CRISTINA FIANI



## CONTACT

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 Glasgow, UK

## EDUCATION

### PhD Psychology and Computing Science, Social AI CDT

University of Glasgow

2021-Present

### Graduate Biomedical Engineering (MEng)

University College London

2017-2021

Average Grade 83% - Solid Biomechanics 91%, Computing in Medicine 89%, Research Software Engineering with Python 91%, Biomedical Engineering Group project 76%

### Scientific French Baccalaureate

Notre-Dame de Boulogne, France

2014-2017

## VOLUNTEERING

### RespectMe, Scottish Anti-bullying Charity

Glasgow, UK October 2022 - Present

- Ran co-design workshops with parents and children to raise awareness of the opportunities and risks of social virtual reality.
- Developed strong interpersonal and communication skills, as well as the ability to tailor my approach to different age groups and learning styles.

### Bookmark Reading Charity

London, UK January 2020 - August 2021

- Supported children with reading difficulties twice a week, using tailored strategies to improve their literacy skills and boost their confidence.

### Impactive Project

UCL September 2018 - July 2019

- Engineer team leader: Designed and built a hearing device in a team. Developed leadership and decision-making skills.
- Volunteered in societies and engineering fairs at UCL, presenting the project to students and tutors.

## PROFILE

Third-year PhD student within the social AI CDT, with a project combining psychology and computing science. My research focuses on safeguarding children in social Virtual Reality (VR).

As a highly motivated and positive individual, I am eager to find a new opportunity that will not only enhance my personal and professional growth, but also allow me to contribute my skills and passion to a dynamic team.

## WORK EXPERIENCE

### PGTA, HCI, University of Glasgow

January 2024 - March 2024

Glasgow

- Facilitated lab sessions, supported the development of students' project work by offering feedback and guidance, graded assignments,.

### VR Safety Intern, PlayStation (SIE)

September 2023 - December 2023

London and Online

- Conducted research and SWOT analysis to propose innovative PSVR/PSVR 2 safety solutions, enhancing user safety.
- Actively collaborated on multiple projects, attended cross-functional team meetings within the Consumer Experience department, and participated in the Safety Summit.

### Private Tutor, Superprof & Tutorful

UK and Online

September 2019 - Present

- Strengthened organizational and time management skills, preparing lessons in advance and ensuring each session runs smoothly.
- Adapted to individual learning styles and provided feedback and encouragement to help students reach their goals.

### Summer Research Intern (Amgen Scholar)

ETH Zurich, Switzerland (Online due to COVID)

July 2021 - September 2021

- Selected among 500 participants to the Amgen Program 2020/2021.
- Interned in the Laboratory for Movement Biomechanics ETH Zurich.
- Worked on a machine learning project: Pose Refinement in Automated Registration of 3D Implants to 2D X-Ray Images) using PyTorch3D optimization.

### Integrated Engineering Programme (IEP) ambassador

University College London

November 2018 - July 2021

- Worked to ensure that the award-winning undergraduate teaching programme stays innovative and dynamic for all students, by being involved in projects and events such as video production and student engineering conferences.
- Raised awareness of the IEP with delegates from Japan, sharing my experience as an engineering student.
- Took part in a Leadership training programme enhancing my leadership skills such as planning and managing as well as supporting and encouraging team members. Later applied these skills as leader of my third-year design group project.

### Creator and mentor of mentorship Be My Encourager

University College London, UK

September 2018 - July 2020

- Created and led the formation of a mentorship programme to help biomedical engineering students.
- Advised students on teamwork, presentations, coursework and life in London helping them gain confidence.

### Summer Laboratory Research Assistant

Francis Crick Institute, London, UK

July 2019 - August 2019

- Completed a machine learning project for biomedical image segmentation gaining programming, biology and science communication skills.
- Developed an artificial neural network that recognises Sensory Organ Precursors on the drosophila wing as they cause inconsistency in the image segmentations used to understand patterns in the veins' development.
- Presented my findings to students and postdoctoral researchers at the end of the internship resulting in positive feedback from my supervisor and group's leader and discussions with researchers from the audience.

## Association Un Monde Humain

France- October 2016 - August 2017  
Nepal

- Organised fundraisers and collected school supplies in my high school fairs for Nepali children.
- Coordinated activities in Bishwa Shiksha Sadan School (Kathmandu) during three weeks, teaching Mathematics, Astronomy and Drama.

## SKILLS

### Technical

- Programming: MATLAB, Python, R, C#, Arduino
- VR development (Unity, C#, Oculus Quest 2)
- Autodesk Fusion360, ADAMS, FEBio
- Mechanical testing experience (ElectroPuls 3000)
- Electronics
- Ultimaker 3D printer

### Research

- Participatory Design
- User studies
- Qualitative and Quantitative measures
- Data and statistical analyses
- Academic Writing
- Science Communication

### Other

- Teamwork & Collaboration
- Communication
- Leadership
- Teaching

## AWARDS

- Gary Marsden Award **\$1850** for IDC 2023
- SICSA Research Scholar **£500** for CHI 2023
- SRITE+ Best Poster Award
- SPRITE+ Belfast 2023 Awarded Travel and Accommodation Funding
- IDC 2023 Student Volunteer

## LANGUAGES

English



French



## PERSONAL INTERESTS

- **Boxing, Weightlifting, Crossfit**
- **Dancing:** Modern Jazz, Dancehall, Hip Hop, Salsa. Participated in 2018 fresher's show and charity show (Triple Bill Showcase).
- **Travelling:** lived 6 years in Nigeria, full immersion summer programs in Boston (2016), Malaga (2015), Barcelona (2014).

## PROJECTS

Numerous projects consolidating Human-Computer Interaction and engineering skills including innovative thinking, problem-solving and communication skills:

### Social AI CDT Year 2 - PhD Project (Ongoing): Safeguarding Children in Social Virtual Reality (VR)

The first year of the PhD was mainly exploratory with the following studies:

- 1) **Exploratory mixed-methods questionnaire** (149 adults, including 79 parents) regarding children's usage of social VR, social interactions involving children in social VR and to determine what parents consider appropriate interventions for their children.
- 2) **Empirical user study with a VR prototype with children and parents:**
  - Developed Big Buddy, an artificial embodied agent as a Wizard of Oz (WOZ) AI-moderator prototype, to safeguard children from disruptive social VR.
  - 43 children (8-16 years old) played my constructed VR interactive game and 17 parents were interviewed.
  - Evaluated children's emotions and perceptions towards Big Buddy and the interventions.
  - Link to papers: <https://doi.org/10.1145/3585088.3589374>, <https://doi.org/10.1145/3544549.3585840>
- 3) **Pilot co-design workshop:**
  - Conducted a two-hour co-design workshop with 9 parents and 11 children.
  - Insight from children and parents about the overall moderation space of social VR.

### Social AI CDT Year 1 - Master Courses and Short Project: Investigating the Non-verbal Behaviour Features of Bullying for the Development of an Automatic Recognition System in Social VR)

- Looked at the possibilities of automatically detecting social discomfort and social anxiety via non-verbal behaviours in social VR based on a bullying example with animations. Gained skills in Unity.
- Successfully presented findings at the International Conference on Advanced Visual Interfaces (AVI 2022) - May 2022.
- Link to paper: <https://doi.org/10.1145/3531073.3534492>

### Master's individual research project: Improving Aortic Stenosis Stent Sizing with Integrated Impedance Measurements

- Gained skills in MATLAB and Python, computing simulations and 3D image reconstructions using Electrical Impedance Tomography and Diffuse Optical Tomography Reconstruction Software (EIDORS).
- Successfully presented findings at the 21st International Conference on Biomedical Applications of Electrical Impedance Tomography (EIT 2021) - June 2021.
- Link to papers: <https://doi.org/10.1109/IR0S47612.2022.9981150>, [https://zenodo.org/record/4635480/files/EIT2021\\_BookOfAbstracts\\_rev01.pdf](https://zenodo.org/record/4635480/files/EIT2021_BookOfAbstracts_rev01.pdf)

### Third-year design group project: Designing and building a personalised cushion for wheelchair basketball players

- Experienced the whole design cycle: created a product starting from an idea to the prototype, obtaining user feedback, testing it and designing a business plan.
- Collaborated with the company Infi-Tex; using their pressure maps to test the prototype.
- Developed leadership, problem-solving, planning and creative thinking skills.

### Scenario weeks: Week-long team projects focusing on a technical engineering design project as part of the Design and Professional skills module

- Designed and built a Positive Expiratory Pulmonary (PEP) device for a child with a lung disease; considering not only the functional outcomes but also personalisation to make it fun for the child aiming for longer-term use.
- Developed a mouse device to help a person without a hand and very limited movement but intact muscles to use a computer.
- Created a smartphone healthcare application with MATLAB to measure the pulse rate of the phone user.