

MARCELLO GIORDANO, PH.D.

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SUMMARY

I am an experienced Human-Computer Interaction researcher, expert in user-centered design, user studies, machine learning and rapid prototyping. I am a competent programmer, and throughout my career I have acquired skills in all things HCI: from haptic feedback design to motion capture and gestural analysis, eye tracking and AR/VR interactions. I thrive in a stimulating environment where working with cutting-edge technology and solving challenging problems is always on the agenda.

EXPERIENCE

Facebook Reality Labs (FRL)

Chatham Labs (acquired by Facebook in September 2020)

Toronto, Canada

Research Scientist

July 2019 to Present

At FRL Toronto (previously Chatham Labs) I work on developing **new interactions and experiences** that will enable users to interact with a smart, AI-powered ecosystem of **AR/VR** devices and applications. My research projects include: **modeling of user intent** to facilitate input and **haptic feedback design** for all-day wearable devices, multimodal feedback and guidance, intern supervision.

Huawei Technologies

Toronto, Canada

Human-Computer Interaction Researcher

March 2018 to July 2019

At Huawei Technologies, I worked on designing new **haptic interactions for mobile and wearable devices**, as well as AI powered, **context aware applications** for wearables and smart-home.

Ultraleap Ltd

Bristol, UK

Haptics Engineer

May 2016 to February 2018

During my time at Ultraleap (formerly Ultrahaptics) I worked on designing of **haptic feedback and interactions** for mid-air haptic technology. My responsibilities included: **user evaluation** by means of qualitative and quantitative methods, **statistical data analysis**, physical measurements of vibrating structures and **data processing**.

SKILLS

• Technical Skills

- Interaction Design, User Research
- Quantitative and Qualitative Research Methods
- Haptic Technology and Haptic Experience Design
- Python, C#, Machine Learning Frameworks (TensorFlow), Unity Development
- Digital Signal Processing (DSP), Laser Doppler Vibrometry (Polytec), Motion Capture Systems (Qualisys), Eye Tracking (Tobii)

• Organization, communication, time management

- Self-driven, curious, able to work under pressure and in fast-paced teams
- Excellent communication skills
- Reliable, capable of meeting strict deadlines

• Languages

- English (Fluent), French (Fluent), Italian (Native), Spanish (Intermediate)

• Citizenship

- Italian, Canadian (Permanent Resident)

EDUCATION

- **Ph.D**, Music Technology – Haptics, *McGill University (Montreal, Canada)*, 2016

- Thesis: *Vibrotactile Feedback and Stimulation in Music Performance*
- Advisor: Marcelo M. Wanderley
- **M.A.**, Media Technology, *Grenoble Institute of Technology (Grenoble, France)*, 2010
- **M.Sc.**, Mathematics and Applications, *Pierre and Marie Curie University (Paris, France)*, 2009
- **B.Sc.**, Mathematics, *"Sapienza" University of Rome (Rome, Italy)*, 2008

SELECTED PUBLICATIONS

Ahn S., Santosa S., Parent M., Wigdor D., Grossman T., **Giordano M.** - "StickyPie: A Gaze-Based, Scale-Invariant Marking Menu Optimized for AR/VR", *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* - 2021

Chilles J., Frier W., Abdouni A. **Giordano M.**, Georgiou O. - "Laser Doppler Vibrometry and Fem Simulations of Ultrasonic Mid-Air Haptics" - *IEEE World Haptics Conference (WHC)* - 2019

Frier W., Ablart D., Chilles J., Long B., **Giordano M.**, Obrist M., Subramanian S. - "Using Spatiotemporal Modulation to Draw Tactile Patterns in Mid-Air" - *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications* - 2018

Giordano M., Georgiou O., Dzidek B., Corenthy L., Kim J. R., Subramanian S., Brewster S. A. - "Mid-Air Haptics for Control Interfaces" - *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* - 2018

Corenthy L., **Giordano M.**, Hayden R., Griffiths D., Jeffrey C., Limerick H., ... Subramanian S. - "Touchless Tactile Displays for Digital Signage: Mid-Air Haptics Meets Large Screens" - *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* - 2018

Tranchant P., Shiell M. M., **Giordano M.**, Nadeau A., Peretz I., Zatorre R. J. - "Feeling the beat: Bouncing Synchronization to Vibrotactile Music in Hearing and Early Deaf People" - *Frontiers in neuroscience* - 2017

Giordano M., Wanderley M.M. - "Follow the Tactile Metronome: Vibrotactile Stimulation for Tempo Synchronization in Music Performance" - *Proc. of the Sound and Music Computing Conference (SMC)* - 2015

Giordano M., Hattwick I., Franco I., Egloff D., Frid E., Lamontagne V., Martinucci M., Salter C., Wanderley M.M. - "Design and Implementation of a Whole-Body Haptic Suit for "Ilinx", a Multisensory Art Installation" - *Proc. of the Sound and Music Computing Conference (SMC)* - 2015

Frid E., **Giordano M.**, Schumacher M., Wanderley M.M. - "Physical and Perceptual Characterization of a Tactile Display for a Live-Electronics Notification System" - *Proc. International Computer Music Conference - Sound and Music Computing (ICMC | SMC)* - 2014

Schumacher M., **Giordano M.**, Wanderley M.M. - "Vibrotactile Notifications for Live Electronics Performance: A Prototype System" - *Proc. International Symposium on Computer Music Multidisciplinary Research (CMMR)* - 2013

Giordano M., Wanderley M.M. - "Perceptual and Technological Issues in the Design of Vibrotactile-Augmented Interfaces for Music Technology and Media" - *Haptic and Audio Interaction Design (HAID) - Lecture Notes in Computer Science, Springer* - 2013

Giordano M., Sinclair S., Wanderley M.M. - "Bowing a vibration-enhanced force-feedback device" - *Proc. New Interfaces for Musical Expression Conference (NIME)* - 2012