

MARCELLO GIORDANO, PH.D.

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in / giordanomarcello

SUMMARY

I am a **UX and Human-Computer Interaction Researcher** with a background in **behavioral research, multimodal interaction design, and data analytics**. I specialize in designing and evaluating new interaction techniques for **wearables, AR/VR systems, and emerging technologies**. My work spans **gesture interfaces, mid-air haptics, gaze-based input, and AI-powered user experiences**, combining user research with rapid prototyping. I enjoy working in cross-functional environments where user insights directly influence product strategy and innovation.

EXPERIENCE

Apple

Cupertino, CA, USA

Senior Research Scientist

August 2022 to Present

Responsible for **UX research on multimodal interactions, wearable technology, and AI-driven interfaces**. Conduct research to evaluate **gesture and gaze-based interaction models** for **Apple Watch and Apple Vision Pro**. Prototype interactions, design and execute usability studies, behavioral analytics, and data modeling to guide product design and decisions.

Meta (Facebook) - Reality Labs Research

Toronto, Canada

Senior Research Scientist

July 2019 to June 2022

Led **user intent modeling, gesture learning, and AR/VR interaction research** for next-gen wearable platforms including AI and haptics. Conducted mixed-methods research on multimodal input systems. Developed experimental prototypes to explore novel interaction paradigms for immersive computing.

Huawei Technologies

Toronto, Canada

Human-Computer Interaction Researcher

March 2018 to July 2019

Designed and evaluated **context-aware interaction systems** and adaptive user interfaces for smart wearables. Conducted **usability studies, A/B testing**, and behavioral research to inform the development of AI-assisted mobile and IoT products.

Ultraleap Ltd

Bristol, UK

Haptics Engineer

May 2016 to February 2018

Led user experience and interaction research on **mid-air haptic feedback systems** and **hands-free gesture control**. Designed and tested interaction techniques for spatial interfaces using ultrasound-based haptics. Applied **quantitative modeling** and **user-centered design** to improve interaction precision and user comfort.

SKILLS

• Emerging Interaction Design

- Gesture interfaces, gaze-based control
- Mid-air haptics, multimodal UX
- Prototyping for AR/VR, wearables
- Voice-enabled systems

• UX Research & Methods

- Mixed-methods: usability testing, interviews, surveys
- Experimental design
- User intent modeling

• Data & Statistical Modeling

- Regression, ANOVA, T-tests, clustering
- Mixed-effect & non-parametric models
- Python (Pandas, NumPy, SciPy, Statsmodels)
- R (lme4)

• Communication

- Synthesizing research into insights
- Presenting to technical/non-technical teams

• Languages

- English (Fluent), French (Fluent)
- Italian (Fluent), Portuguese (Advanced)

EDUCATION

- **Ph.D**, Music Technology – Haptics, *McGill University (Montreal, Canada)*, 2016
- **M.A**, Media Technology, *Grenoble Institute of Technology (France)*, 2010
- **M.Sc**, Mathematics and Applications, *Pierre and Marie Curie University (France)*, 2009
- **B.Sc**, Mathematics, *Sapienza University of Rome (Italy)*, 2008

SELECTED PUBLICATIONS

Chen, D. L., **Giordano, M.**, Benko, H., Grossman, T., Santosa, S. - "GazeRayCursor: Facilitating Virtual Reality Target Selection by Blending Gaze and Controller Raycasting", *Proceedings of the 29th ACM Symposium on Virtual Reality Software and Technology* - 2023

Sidenmark L., Parent M., Wu C., Chan J., Glueck M., Wigdor D., Grossman T., **Giordano M.** - "Weighted Pointer: Error-aware Gaze-based Interaction through Fallback Modalities", *IEEE Transactions on Visualization and Computer Graphics* - 2022

Cheng T., Park J. W., Li J., Ramey C., Lin H., Abowd G. D., Medeiros C., Oh H., **Giordano M.** - "PITAS: Sensing and Actuating Embedded Robotic Sheet for Physical Information Communication", *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* - 2022

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

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

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

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

SELECTED PATENTS

Zhang, T., Gupta, A., **Giordano, M.**, Jonker, T. R., Benko, H - "Systems and methods for communicating recognition-model uncertainty to users.", *U.S. Patent No. 11,789,544* - 2023

Henrikson, R., Grossman, T.S., Trowbridge, S.E., Benko, H., Wigdor, D.J., **Giordano, M.**, Glueck, M., Jonker, T.R., Gupta, A., Santosa, S. and Medeiros, C.B. - "Multimodal kinematic template matching and regression modeling for ray pointing prediction in virtual reality.", *U.S. Patent 11,656,693* - 2023

Giordano, M., Parent, M., Wigdor, D.J., Santosa, S., Grossman, T.S. and Sunggeun, A. - "Saccade-based positioning for radial user interface.", *U.S. Patent No. 11,449,138*. - 2022