Trenton Wirth

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LinkedIn
Google Scholar
Github

Perceptual-Motor Scientist & UX Researcher

I am a world expert in the study of the self-organization in human crowds with an ever-growing technical skillset enabling me to introduce novel research methods to look at data in completely new ways. I have a talent for explaining intricate experimental results to a broad audience and am passionate about mentoring junior researchers.

Education

Brown University, Providence RI | February 2021
PhD, Cognitive Science

University of Cincinnati, Cincinnati OH | April 2014
B.S. in Psychology, (*Cum Laude*)
B.A. in Philosophy, (*Summa Cum Laude*)

Skills

General

Mentorship, project management & agile methods, professional scientific writing and verbal communication

Research Methods

Experimental design, general statistics, A/B testing, hypothesis testing, benchmarking, computational modeling, model comparison, simulation, regression analyses (linear, logistic), time series analysis, significance testing, power analysis, surveys, mixed-methods research, user segmentation, usability studies, logs analysis, prototyping, co-creation, interviews, expert review, remote field studies

Software

Python (Pandas, SciPy, NumPy, etc.), SQL, R, Matlab, Unity (C#), GitHub, HTML/CSS, Markdown, Microsoft Suite

Work Experience

The FreeMoCap Foundation (freemocap.org) *Co-Founder & Chief Operations Officer, 2020 - Present*

Product Managed the release of our pre-alpha software alongside engineers, marketing, designers, and UX research personnel, resulting in the growth of the FreeMoCap community from 0 to over 3000 members in less than a year

Constructed a Python-based pipeline to capture and analyze user telemetry to measure UI interactions and workflows within the FreeMoCap software, providing developers and marketing personnel with weekly analytics

Project managed 3 inter-laboratory validation studies resulting in initial benchmarking against competitors

Conducted & analyzed surveys of the FreeMoCap community resulting in the development of a GUI for Alpha release

Northeastern University *Post-Doctoral Researcher, 2020 - Present*

Designed a new gameified experimental paradigm in Augmented Reality, studying the visual control of foot placement, combining data from an eye tracker, game engine, and motion capture system, resulting in 2 conference presentations

Engineered a complex python-based post-processing pipeline, including the implementation of an optimization algorithm to synchronize eye tracking data with full body kinematics both in space and time

Mentored 1 junior staff researcher, 1 graduate student, and 3 undergraduate students

Brown University *Graduate Student Researcher, 2014 - 2021*

Wrote a doctoral thesis focusing on the self-organization of human crowd behavior, implementing various statistical methods (regression analyses, Bayesian statistics, etc.) across 6 different Virtual Reality-based experiments, resulting in 8 conference presentations and 4 written publications

Contributed to an agent-based model which predicts human behavior when walking in real and virtual crowds