

Democratizing Haptics

Haptics, the science and technology of programmable touch experiences, is gaining great traction in virtual reality, robotics, and wearable applications. Large companies such as Apple, Facebook, and Google are increasingly investing in the field. Yet, haptic technology is complex and specialized, and the field's impact is currently limited to a small group of experts who can design in hardware and software and small-scale lab-based studies that do not scale to users' diverse needs and preferences. My goal is to create a future where anyone can access, design, and adapt touch

technology for their needs. In this talk, I present my research in supporting three groups of future haptics creators: 1) end-users, 2) interaction designers, and 3) haptics experts. I discuss their mental models for haptic technology, present collections and tools that accumulate years of haptics expert knowledge for novices, and propose a methodology for running large-scale studies in haptics. Finally, I discuss the remaining steps toward a future where effective and fun virtual touch experiences are designed, tailored, and embraced by all.

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Light Refreshments

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Hasti Seifi is a postdoctoral research fellow at the Max Planck Institute for Intelligent Systems in Germany. She received her Ph.D. in computer science from the University of British Columbia in 2017, her M.Sc. from Simon Fraser University in 2011, and her B.Sc. from the University of Tehran in 2008. Her research lies at the intersection of human computer interaction (HCI), programmable touch technology (haptics), and information visualization (infoviz). Hasti has published her work in top-tier HCI, haptics, and perception venues such as ACM CHI,

IEEE World Haptics, and ACM TAP and has won several prestigious awards including the Eurohaptics best Ph.D. thesis award in the field of haptics in 2017 and an NSERC postdoctoral fellowship in 2018. Her research has drawn the attention of major tech companies such as Facebook Reality Labs, Immersion Corporation (the world's largest haptics company), and Technicolor USA. Through her research, Hasti aims to empower a wide range of users, designers, and experts to create, evaluate, and adapt haptic technology for their goals.