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TED featured talk (over 4 million views)

Rébecca Kleinberger, Ph.D.

SUMMARY

- Innovation, research, and design expertise in the **future of voice technology**
- Skilled in all stages of product development: ideation, prototyping, testing, troubleshooting, iteration, evaluation, & deployment
- Significant experience leading multidisciplinary projects, managing teams of diverse collaborators. Mentored 100+ MIT undergrads

EXPERIENCE

HARMAN INT.   Cambridge, MA | 2021 - present
Innovation Manager and Academic Liaison/Applied Research Manager: CTO R&D strategy, technology transfert from academia
  - Identify and manage audio research projects with external academic partners (portfolio of 5+ projects, teams of 10+ scientists)
  - Participate in strategy, monitor technology trends, develop scientific vision and research roadmaps for new initiatives

MASSACHUSETTS INSTITUTE OF TECHNOLOGY   Cambridge, MA | 2020 - 2021
Postdoctoral Researcher & Team Manager: Design, Research & Innovation in Voice Technology managing a team of 8+
  - Invented novel technology to reduce stuttering leading to 50-100% fluency increase: 25% above state-of-the-art (patent pending)
  - Developed iOS app for real-time DSP of altered auditory feedback and data/audio collection for longitudinal validation
  - Explore commercialization avenues, market research, A/B testing, fundraising, commercial partnerships, grant application

MIT MEDIA LAB   Cambridge, MA | 2012 - 2020
Innovation UX Researcher: Ph.D researcher with unique expertise on voice as a means for expression, interaction, health assessment
& assistive tech. Mixes CS, DSP, ML, HCI, neurology, cognitive sciences, biology, linguistics to create innovative voice experiences.
  - Ran all stages of research & prototyping: concept, development, fabrication, validation, deployment, publication and exhibitions
  - Led teams of 10+ collaborators, interactions with funding institutions, continuous management of 3-5 projects in parallel
  - Consulted in 50+ innovation workshops with companies leading to international consulting and workshop requests
  - Mastered continual and effective communication, thought leadership across disciplines and institutions: multiple demos & talks
  - Directed project strategy and lead multidisciplinary collaboration (2 pending patents)
  - Deployed & launched several projects/products
    Mumble Melody: Created music-based technology for people who stutter based on neuro-computational voice models
    Conducted research across fields; used science, engineering & design skills to develop & test prototypes (linux & iOS)
    Sonic Enrichment at the San Diego Zoo: Deployed 4 sonic interventions for animal enrichment at the San Diego zoo
    Led team of 10+ experts; obtained IRB approval; trained ML models; collected visitor/animal engagement data
    The Memory Music Box: Envisioned android-based device to help elders with memory loss stay connected with loved ones
    Invented new concept of Cognitively Sustainable Design, jewelry music box form-factor, prototyping, validation
    The Orb: Designed and built embedded Linux-based hand-held device that maps voices into vibrations
    Drove concept, prototyping & manufacturing states; exhibited at 6 design venues and validated in cross-sectional studies,

MICROSOFT RESEARCH HXB   Cambridge, UK | 2016
Research Intern: Conceived & developed wearable AI to help visually impaired people with social navigation
  - Conducted research and analysis of problem space: social, technological and design challenges of assistive social technology
  - Designed & prototyped RL-based wearable audio UI for blind users & creation of novel *Zippotentiometer* for intuitive textile UI

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY   Cambridge, MA | 2012 - 202
  Ph.D. and Master of Science from the MIT Media Laboratory (GPA 5/5)
UNIVERSITY COLLEGE LONDON   London, UK | 2011 - 2012
  Master of Research in Virtual Environment, Imaging, and Visualization
ECOLE NATIONAL SUPERIEUR DES ARTS ET METIERS PARISTECH   Paris, France | 2006 - 2011
  Master in Engineering & Bachelor in Mathematics and Physics

SKILLS

PROGRAMMING: Experienced with C, C++, Python, Java, SQL, JavaScript, MATLAB, R, Processing, openFrameworks
SOFTWARE: Adobe Creative Suite, CAD (CATIA, SolidWorks, Rhino, Unity), Audio (Reaper, AbeltonLive, Praat, Max MSP)
STATISTICAL & RESEARCH: Machine Learning, Experiment Design, Significance Testing, Data Collection & Visualization
PROTOTYPING: Machining (CNC, laser cutting, water jet), Molding, Casting, 3D Printing, Electronics, Robotics, Ceramics
LANGUAGES: French (Fluent), English (Fluent), German (Intermediate), Japanese (Beginner)
RELEVANT COURSES: Applied Machine Learning, Affective Computing, HCI, Deepfakes, Tech & the Self

COMMUNICATION

KEYNOTES

Voice & the senses | The OtherAbility Festival	**Amsterdam, Netherlands | 2019**
Future of Voice Technology | VMware keynote	**Boston, MA | 2018**
Voice and HCI | Seminar at Sorbonne University	**Paris, France | 2017**
Why we don't like the sound of our own voice	**TEDx Beacon Street| 2017**

TEACHING & WORKSHOPS

Sonic and Vocal Enrichment at the Zoo | Guest lecture at Parson School of Design	**New York, NY | 2019**
Series of 4 Innovation Workshops | Toyota, Denso, Dentsu, Panasonic	**Tokyo, Japan | 2017**
Animal Music | Guest lecture at Colorado College	**Colorado Spring, CO | 2016**
Maker Workshop | Workshop at the White House	**Washington, DC | 2015**
Hyperscore workshop | Royal Opera House	**London, UK | 2012**

PRODUCTION

Philadelphia Voices Symphony | Voice Research & Creative Tools | Carnegie Hall	**New York, NY| 2018**
Hyperstring Trilogy | Electronics Preparation | Luzern Festival	**Luzern, Switzerland | 2016**
Death and the Powers Opera | Robot Operator | Winspear Opera House	**Dallas, TX | 2015**

EXHIBITS

Enchanted Wear | Digitally Enchanted Dress	**Kulturhuset, Stockholm, Sweden | 2018**
Performing Science | Series of pop-up installations at the Museum of Fine Art	**MFA, Boston, MA | 2017-18**
Voice and Reflection | Hacking Consciousness Event at the Harvard Divinity School	**Cambridge, MA | 2017**
Dandelion Diptych | SIGGRAPH Art Exhibit	**San Francisco, CA | 2015**
Vocal Vibrations | Le Laboratoire	**Paris, France | 2014**

MEDIA COVERAGE

What happens when you focus on 'everything but the words'	**The Ambient | 2018**
In pursuit of the perfect AI voice	**Engadget | 2017**
MIT exhibits let the body hum in a vocal meditation	**The Boston Globe | 2015**
Duet for Composition and Software	**The New York Times | 2014**

FELLOWSHIPS & AWARDS

→ Bill Mitchell Design Award | 2017
→ Graduate Woman of Excellence Award, MIT | 2017
→ Director's Grant from the Council for the Arts at MIT | 2016
→ International Fellow, MIT | 2013-20

→ MIT Engineering Advisory Board, maker portfolios reviewer
→ SOCE Grant, Paris | 2012
→ Magnes Scholarship, ENSAM | 2011
→ Prix d'Excellence Scientifique et Technique, ENSAM | 2010

SELECTED PUBLICATIONS

Interspecies Interactions Mediated by Technology at the Zoo	**Computer-Human Interactions (CHI) | 2020**
Fluency Effects of Acoustic Vocal Transformations in People Who Stutter	**Society for Neurobiology of Language (SLN) | 2019**
Supporting Elder Connectedness through Cognitively Sustainable Design Interactions with the Memory Music Box	**UIST | 2019**
SNaSI: Social Navigation through Subtle Interactions with an AI agent	**Research Through Design (RTD) | 2018**
PHOX Ears: Parabolic, Head-mounted, Orientable, eXtrasensory Listening Device	**NIME | 2015**
3D-printing of non-assembly, articulated models	**SIGGRAPH Asia | 2012**
Nanometre 551 Science Fiction short novel published in 2084, *le meilleur ou le pire des mondes*	**Broché | 2010**