

Cedric Honnet

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ABSTRACT

With endless enthusiasm about interactivity, new media and the arts, I love to explore innovative technologies... I am profoundly curious and always open for collaborations.

Keywords

HCI, Embedded Systems, Arts, Robotics, IoT, Manufacturing, 3d [Position | Motion | Touch] Sensing, [Ultra] Low Power, Wearables, Haptics, eTextiles, Human Augmentation, etc.

RESEARCH

Selected Publications

(Full list online: honnet.eu/#Academic)

- UIST 2021: *MetaSense: Integrating Sensing Capabilities into Mechanical Metamaterial* - J. Gong*, O. Seow*, C. Honnet*, J. Forman, S. Mueller
- IEEE AeroSpace 2021: *Feeling Through Spacesuits: Application of Space-Resilient E-Textiles to Enable Haptic Feedback on Pressurized Extravehicular Suits* - S. Payra, I. Wicaksono, J. Cherston, C. Honnet, V. Sumini, J. Paradiso
- TEI 2021 (+Ars Electronica 2020): *Topographie Digitale* - A. Briot, M. DeBie, A. Giordani, L. Denise, C. Honnet
- CHI 2020: *PolySense: Augmenting Textiles with Electrical Functionality using In-Situ Polymerization* - C. Honnet, H. Perner Wilson, M. Teyssier, B. Fruchard, J. Steimle, A.C. Baptista, P. Strohmeier
- UIST 2020: *Sonoflex: Embroidered Speakers Without Permanent Magnets* - Thomas Preindl, C. Honnet, A. Pointner, R. Aigner, J. Paradiso, M. Haller
- DIS 2020: *Stymphalian Birds - Exploring the Aesthetics of A Hybrid Textile* - A. Briot, C. Honnet, P. Strohmeier
- UbiComp 2019: *HiveTracker: 3d Positioning for Ubiquitous Embedded Systems* - C. Honnet, G. Lopes
- TEI 2019: *Optimizing Pressure Matrices: Interdigitation and Interpolation Methods for Continuous Position Input* - P. Strohmeier, V. Hakansson, C. Honnet, D. Ashbrook, K. Hornbaek
- AH 2018: *HIVE Tracker: a tiny, low-cost, and scalable device for sub-millimetric 3D positioning* - D. Quinones, G. Lopes, D. Kim, C. Honnet, D. Moratal, A. Kampf
- NIME 2017: *Designing a Multi-Touch eTextile for Music Performances* - M. Donneaud, C. Honnet, P. Strohmeier
- LM 2016: *Developing an Ecosystem for Interactive Electronic Implants* - P. Strohmeier, C. Honnet, Samppa Von Cyborg

EXPERIENCE

2020-202x: MIT, USA

Human-Computer Interactions, Embedded systems

Media Lab + CSAIL: Fabrication, 3D positioning, Wearables...

2017-2020: Sorbonne University / CNRS, France

Research Associate/Affiliate - Embedded systems

"Situated Analysis of HCIs in Smart Environments."

2016-2017: Carpe Noctem, International

Research Engineering, Mentor

- Consulting about embedded systems, wearables, IOT and manufacturing in China, France, etc.
- Visiting Researcher in UK, Denmark, Singapore, Portugal
- Teaching in engineering schools, incubators...

2014-2016: Tangible Display, USA / France / China

Co-founder - Research & Development Engineer

- Helped companies exploring various interactive solutions for their project (ex: Google Soli)
- Designed interactive systems (hardware+software) with RFID, touch screens, depth cameras, eTextiles, wearable or IoT sensors such as the "Twiz": a BLE motion sensor with embedded 9 DoF fusion.

2012-2013: Sifteo, USA

Embedded Systems Engineer & InterHacktivist

- Worked on various elements of the firmware and software: user interface (sound, graphics...), battery management, simulator, graphics controller, bootloader reliability, etc.
- Experimental interactive projects: Implemented a gestures recognition system using the MIT-GRT Toolkit, added a MIDI interface to control music software, and developed an audio communication system to send data to smartphones.

2010-2011: Sigma Designs - USA

Research & Development Engineer, Trainee

Google's VP8 Video Decoder Porting on Custom Processor:

- Firmware: memory management and execution acceleration
- Hardware instruction customization for specific purposes such as arithmetic decoding or binary tree decoding

2008: Telecom ParisTech EE Research Labs - France

Research & Development Engineer, Trainee

Evaluation of combinatorial components reliability using FPGA for massively parallel simulation of fault injection.

2007: Brunel University EE Research Labs - UK

Research & Development Engineer, Trainee

Signal Restoration experimentations & Universal Software Radio Peripheral modules implementations.

EDUCATION

2020-2026: MIT, USA

PhD Program @ Media Lab + CSAIL

Human Computer Interaction

(Nagashima Fellow)

Extracurricular: Kick Boxing

2011: Telecom ParisTech (IPP), France

★ 1st French Engineering school ([Industry ranking](#))

Master 2 - with honors (Diplome d'ingenieur)

Computer Sciences: Embedded Systems & Robotics, New Media, Systems On Chip, Security

Extracurricular: Robotics, Savate (French boxing)

2009: Sorbonne University (ex-UPMC), France

★ 1st French university ([Research ranking](#))

Master 1 - with honors (Maitrise)

EECS with emphasis on Digital Electronics

Extracurricular: Jujitsu, Sambo, Computer Science tutoring for students with disabilities

2007: Brunel University, UK

Bachelor - with honors

EECS with emphasis on Digital Signal Processing

Extracurricular: Judo, Thai Boxing

LANGUAGES

- French: ILR Level 5 - Native proficiency
- English: ILR Level 4 - Full professional proficiency
- Spanish: ILR Level 3 - Professional working proficiency

DISTINCTIONS, AWARDS...

- 2021: MetaSense - [Wildcard Prize](#) by Hack-a-Day (HaD)
- 2020: PolySense - [Wildcard Prize](#) by HaD
- 2020: Selected for the [Open Lab](#) with Google Arts
- 2019: [NYU-ITP](#) "instigator" fellowship
- 2019: HiveTracker - [Connected World](#): Best Project (HaD)
- 2018: HiveTracker - [Inch Contest](#): Best Project (HaD)
- 2018: HiveTracker - [HCI Prize](#) (HaD)
- 2017: French government research grant ([CIR](#))
- 2016: Mentor in art+tech accelerator ([MaDlab](#) UK.)
- 2015: [Google Soli](#) alpha development fellow
- 2015: [Forbes](#) featured my project Twiz!
- 2014: 1st place at Bemyapp factory [contest](#), SF, CA
- 2009: [Besse Foundation](#) Fellow (until 2011)
- 2005: Kenpoken France champion - [80 Kg category](#)
- 1997: [DMC](#) DJ championship (Fr): 8th final - 2nd youngest

EXTRA

[Meta]Reviewing

- UIST: User Interface Systems and Technologies
- CHI: Human Factors in Computing Systems
- TEI: Tangible Embedded & Embodied
- NIME: New Interfaces for Musical Expression

Mentoring / Teaching

- *What?* IoT, Wearables, Interaction, Music Tech...
- *Where?* Engineering Schools, Tech-Art Labs, Incubators...

Collectives

- DataPaulette ([DataPaulette.org](#)): wearable / textile hackerspace - core member
- Noisebridge ([Noisebridge.org](#)): hackerspace - teachings electronics
- [Cumbia Rockers Allstars](#) ([Gatos Negros Prod.](#)): DJ in Cumbia-Fusion groups
- Telecom Robotics ([telecom-robotics.org](#)): Robotics competition society

Art-Science Residencies & Exhibitions

- Austria 2020: ARS Electronica - [Topographie Digitale](#) exhibition
- US - MA 2018: MIT Media Lab research residency about wearables & music (gave birth to [SonoFlex](#))
- Singapore 2016: Media Lab Lasalle - visiting researcher: see [Digital Oxymorons](#) publication.
- Denmark 2015: Copenhagen University, Human-Centred Computing - visiting researcher: [body-ui.eu](#)
- France 2015: Fructus Animalis - art against programmed obsolescence : [project.honnet.eu/fructus-animalis](#)
- Singapore 2014: Growell - explored wild animals camera-trap, DIY farm robotics...
- Colombia 2012: [Plataforma - Bogota](#) (Interactive Art Lab): [project.honnet.eu/Resbala](#), etc.

REFERENCES

- David Merrill (Sifteo): [dMerrill\(a\)media.mit.edu](mailto:dMerrill(a)media.mit.edu)
- Ali Rizvi (Sigma Designs): [aRizvi\(a\)apple.com](mailto:aRizvi(a)apple.com)
- Alexis Polti: [Alexis.Polti\(a\)Telecom-ParisTech.fr](mailto:Alexis.Polti(a)Telecom-ParisTech.fr)
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