

# Cedric Honnet

[honnet@mit.edu](mailto:honnet@mit.edu) // [www.honnet.eu](http://www.honnet.eu)

## 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.

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## RESEARCH

### Selected Publications

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

- 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
- CHI 2018: *IN-TOUCH: To improve haptic experiences in VR and AR, we must first improve tracking* - P. Strohmeier, C. Honnet
- 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
- MOCO 2017: *Digital Oxymorons: From ordinary to expressive objects using tiny wireless IMUs* - A. Schlegel, C. Honnet
- LM 2016: *Developing an Ecosystem for Interactive Electronic Implants* - P. Strohmeier, C. Honnet, Samppa Von Cyborg
- MOCO 2016: *Movement of Things: Exploring Inertial Motion Sensing When Autonomous, Tiny and Wireless* - A. Schlegel, C. Honnet

## EXPERIENCE

### 2020-20xx: MIT Media Lab, USA

*Research Associate - Embedded systems, HCI*  
ResEnv: 3D positioning, Haptics, eTextiles.

### 2017-2020: Sorbonne University / CNRS, France

*Research Associate - Embedded systems*  
"Situated Analysis of HCIs in Smart Environments."

### 2016-2017: Carpe Noctem, International

*Research Engineer, 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...  
(see Publications and Logs: [honnet.eu/#Log](http://honnet.eu/#Log))

### 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 & InterHactivist*  
- 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.

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## EDUCATION

### 2020: MIT Media Lab, USA

#### Graduate Program (in progress)

Human Computer Interaction

*Extracurricular: Kick Boxing*

### 2011: Telecom ParisTech, 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: Telecom 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*

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## LANGUAGES

- French: ILR Level 5 - Native proficiency
  - English: ILR Level 4 - Full professional proficiency
  - Spanish: ILR Level 3 - Professional working proficiency
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## DISTINCTIONS, AWARDS...

- 2020: PolySense - [Wildcard Prize](#) by Hack-a-Day (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

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## 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 and Kombo Clan Destino ([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.
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## 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)
- Saeed Vaseghi: [Saeed.Vaseghi\(a\)Brunel.ac.uk](mailto:Saeed.Vaseghi(a)Brunel.ac.uk)