

# Emmanuel Senft

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## Curriculum Vitae

### CONTACT

Email [esenft@wisc.edu](mailto:esenft@wisc.edu)  
Website <https://emmanuel-senft.github.io/index.html>  
Scholar <https://scholar.google.co.uk/citations?user=Yw1tGf4AAAAJ&hl=en>  
citations > 500, h-index = 12

### RESEARCH STATEMENT

**Robots** I want to create rich robotic systems to allow robots to both useful and impactful  
**Learning to** in our society. My research is focused on exploring ways to allow robots to learn  
**Interact** complex and efficient policies in the real world. I am interested in Human-Robot  
Interaction both for physical and social interactions, as they encompass traditional  
challenges of the real world: high cost of failure, limited number of datapoints  
and real-world application. I believe that combining shared control and interactive  
machine learning is key to allow robots to safely learn to interact in such sensitive  
and real environments.

### EMPLOYMENT

**Current** **Research Associate**, *HCI Lab, University of Wisconsin-Madison, USA*, PI: Prof. Bilge Mutlu (since Oct 2019).  
**2019** **Cooperate Researcher**, *JSPS Summer program, IRC - ATR, Japan*, PI: Prof. Takayuki Kanda (June-August).  
**Research Fellow**, *Plymouth University,, UK*, PI: Prof. Tony Belpaeme.  
part-time (January to March)  
**2018** **Research Assistant**, *Plymouth University, UK*, PI: Prof. Tony Belpaeme.

### EDUCATION

**2014-2018** **PhD**, *Plymouth University, Plymouth, UK*, Title: Teaching Robots Social Autonomy From In Situ Human Supervision.  
Supervisory team: Prof. Tony Belpaeme, Dr. Paul Baxter and Dr Séverin Lemaignan  
**2008-2013** **Master of Science in Robotic and Autonomous Systems**, *Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland*, Master thesis with Prof. Auke J. Ijspeert.  
With Minor in Area and Cultural Studies.

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## AWARD

- 2019 **Queen Mary UK Best PhD in Robotics Award:** Second position.

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## GRANTS

- 2019 **JSPS Summer Program:** 2 months research program with Prof. Takayuki Kanda at ATR, Japan.

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## SELECTED PUBLICATIONS

### Journals

- 2019 • **Teaching robots social autonomy from in situ human guidance.**  
**E. Senft**, S. Lemaignan, P.E. Baxter, and T. Belpaeme  
Science Robotics 4 (35)
- **Robot-Enhanced Therapy: Development and Validation of a Supervised Autonomous Robotic System for Autism Spectrum Disorders Therapy.**  
H.L. Cao, ... , **E. Senft**, ... , and T. Ziemke  
IEEE Robotics & Automation Magazine, 2019.
- 2017 • **Supervised Autonomy for Online Learning in Human-Robot Interaction.**  
**E. Senft**, P. Baxter, J. Kennedy, S. Lemaignan, and T. Belpaeme  
Pattern Recognition Letters, 2017.
- **How to Build a Supervised Autonomous System for Robot-Enhanced Therapy for Children with Autism Spectrum Disorder.**  
P.G. Esteban, ... , **E. Senft**, ... , T. Ziemke  
Paladyn, Journal of Behavioral Robotics. De Gruyter Open, 2017.

### Conferences

- 2020 • **Would You Mind Me if I Pass by You? Socially-Appropriate Behaviour for an Omni-based Social Robot in Narrow Environment.**  
**E. Senft**, S. Satake and T. Kanda  
HRI, 2020.
- 2017 • **Child Speech Recognition in Human-Robot Interaction: Evaluations and Recommendations.**  
B. Irfan, J. Kennedy, S. Lemaignan, F. Papadopoulos, **E. Senft**, and T. Belpaeme  
HRI, 2017.
- 2016 • **Social Robot Tutoring for Child Second Language Learning.**  
J. Kennedy, P. Baxter, **E. Senft**, and T. Belpaeme  
HRI, 2016.
- 2015 • **SPARC: Supervised Progressively Autonomous Robot Competencies.**  
**E. Senft**, P. Baxter, J. Kennedy, and T. Belpaeme.  
ICSR, 2015.

Complete list with pdf <https://emmanuel-senft.github.io/publication.html>

## INVITED TALK

- 2019 30 Jan **CHILI Lab - EPFL** (Lausanne, Switzerland)  
14 Feb **Robot Learning and Interaction Lab - IDIAP** (Martigny, Switzerland)

## PROFESSIONAL EXPERIENCE

- since 2017 **Event Organiser**,  
*AAMAS 2019 (PC member)*  
*AAAI Symposium AI-HRI 2017-2019 (Program Chair)*  
*HRI Workshop 2019 - Robots in Therapy and Care (Committee member).*
- since 2015 **Reviewer**, *Scientific Reports, JIST, ICRA, HRI, MECH, JHRI, IS, SBLI, IBERDIS-CAP, HAI, ICSR, HUMANOID, RO-MAN, TAROS...*
- 2015-2017 **Demonstrator**, *ROCO 318 - Mobile and Humanoid Robots*, Plymouth University.  
Leading practical work on bipedal gait design and control for 3<sup>rd</sup> year students.

## TECHNICAL SKILLS

- Advanced Python, ROS, QML, C++, Machine Learning (ANN, RL, Interactive Machine Learning), Robotics, NaoQi, Human-Robot Interaction, Study Design, Academic Writing, Robot Assisted Therapy (especially for children with ASD).
- Intermediate Solidworks, ProEngineer, MatLab, C, JAVA, Pepper and YARP.

## LANGUAGES

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|----------|----------------------|--|
| French   | <b>Mother tongue</b> |  |
| English  | <b>Advanced</b>      | <i>Conversationally fluent and technical</i> |
| Mandarin | <b>Basic</b>         | <i>Level A2</i>                              |
| German   | <b>Basic</b>         | <i>Level A2</i>                              |

## OTHER EXPERIENCE

- 2016-2017 **Comittee member**, *Karate-UPSU*, Plymouth University, UK.  
Treasurer for the university karate club. (member from 2014 to 2018)
- 2007-2013 **Scout Team Leader**, *Eclaireuses et Eclaireurs Unionistes de France de Douvaine*.  
Team management and leadership, organisation of events with 8-12 or 12-16 years old children with legal responsibility, member from 1998 to 2013.
- 2008-2012 **Member**, *Robopoly*, EPFL, Switzerland. Robotic Association.