

Séverin Lemaignan

*Senior Research Fellow
Cognition for Social Robotics*

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36 years old



Scientific Focus **Robot cognition and decision making for social interaction:** data-driven understanding of social interactions; human-robot multi-modal interaction; theory of mind; symbolic and sub-symbolic knowledge representation; ethics of safe human-robot interactions.

Keywords **Robotic Cognition, Human-Robot Interaction, Cognitive Architectures**

Education and Research Activities

- Apr. 2018– **Senior Research Fellow in Robotics and Artificial Intelligence, Bristol Robotics Lab, United Kingdom.**
- 2017–2018 **Lecturer in Robotics, Plymouth University, Plymouth, United Kingdom.**
- 2015–2017 **EU Marie Skłodowska-Curie Post-doctoral fellow, Centre for Neural Systems and Robotics, Plymouth University, Plymouth, United Kingdom.**
Development and Implementation of a Theory of Mind for robots.
- 2013–2015 **Post-doctoral fellow, CHILI, EPFL, Lausanne, Switzerland.**
Interaction with Robots in Learning Environments – Supervision of the robotic group.
- 2012–2013 **Post-doctoral fellow, LAAS-CNRS, Toulouse, France.**
Spatial and Temporal Reasoning for Cognitive Robotic Architectures.
- 2008–2012 **Joint German-French PhD in Cognitive Robotics, LAAS-CNRS, Toulouse, France / IAS-TUM, Munich, Germany.**
with High Distinction “Summa Cum Laude” – awarded CNRS’ **Best PhD in Robotics 2012**
Supervisors: Pr. Rachid Alami, CNRS Senior Researcher, Pr. Michael Beetz, TUM Senior Researcher.
- 2006–2007 **Research Engineer, INRIA, Paris, France.**
Development of semantic-aware control architectures for autonomous vehicles.
- 2002–2006 **Joint German-French MSc of Engineering, Karlsruhe Institute of Technology / ENSAM ParisTech.**
- 2004–2005 **MSc Artificial Intelligence for Learning Technologies, University Paris V, College of Mathematics and Computer Sciences, With Honours.**

Awards and Honours

- **Best Paper Award 'Design', HRI'2017**
- **Best Paper Award 'Methods and Theory', HRI'2016**
- **Best Video Award in Artificial Intelligence, AAAI'2015**
- **Best Late Breaking Report Award, HRI'2014**
- **Best PhD in Robotics, CNRS 2012**
- **PhD with High Distinction** (“Summa Cum Laude”), TU Munich 2012
- **Best Paper Award, ROMAN'2010**
- **Gold Medal** (top ten students), ENSAM ParisTech 2006

Selected Fellowships & Grants

- 2019–2022 **InnovateUK, CAV Forth – Verification for Connected Autonomous Vehicles**, Co-Investigator, £600K.
- 2015–2017 **EU H2020 Marie Skłodowska-Curie Individual Fellowship**, Principal Investigator, € 195K.
- 2019–2022 **[under review] EU H2020, AIROS – ROS for safe and robust HRI**, Co-Investigator, €4M.
- 2019–2022 **[under review] EPSRC, ERRO – Error recognition for safe HRI**, Co-Investigator, £700K.
- 2019–2022 **[under review] EPSRC, ROBIN – Neurofeedback and Social Robotics**, Principal Investigator, £300K.

Selected Publications

As of Feb 2019, 70+ publications, 1600+ citations, h -index = 21 (*Google Scholar*).
See *my website* for the complete list of publications, workshops and seminars.

- Lemaignan S., Edmunds C., Senft E., Belpaeme T., **The PInSoRo dataset: Supporting the data-driven study of child-child and child-robot social dynamics**, *PLOS One*, 2018.
- Lemaignan S., Warnier M., Sisbot E. A., Clodic A., Alami R., **Artificial Cognition for Social Human-Robot Interaction: An Implementation**, *Artificial Intelligence*, 2017.
- Lemaignan S., Jacq A. and Hood D., Garcia F., Dillenbourg P., **Learning by Teaching a Robot: The Case of Handwriting**, *IEEE Robotics and Automation Magazine*, 2016.
- Lemaignan S., Ros R., Sisbot E. A., Alami R., Beetz M., **Grounding the Interaction: Anchoring Situated Discourse in Everyday Human-Robot Interaction**, *International Journal of Social Robotics*, 2011.

Supervision & Teaching Experience

Students supervision, Currently supervising 10+ students, click here for full list.

- K. Winkle (PhD, 2016-): *Persuasive human-robot interactions*
- C. Wallbridge (PhD, 2016-): *Spatial reasoning for Child-Robot Interaction*
- E. Senft (PhD, 2015-2018): *Shared autonomy for social human-robot interactions*
- A. Jacq (PhD, 2014-2015): *Mutual modeling and repair strategies in HRI*
- A. Özgür (PhD, 2014-2015): *Cellulo: haptic robotics for learning*

- 2018– **Lecturer, University of the West of England**.
teaching at MSc level; Human-Robot Interaction, data science
- 2016–2018 **Lecturer, Plymouth University**.
teaching at BSc & MSc level robotics, including HRI, ROS, Kalman filtering, localisation and planning, control architectures
- 2013–2016 **Guest lectures, Plymouth University, EPFL**.
RGB-D cameras for HRI, Introduction to computer graphics & 3D modelling.
- 2008–2016 **Support lectures in robotics, Plymouth University, EPFL, LAAS-CNRS, Université de Toulouse**.
ROS, robotic simulation, ontologies, Python, software engineering.
- 2008–2011 **Teaching assistant, INSA Toulouse, Écoles des Mines de Paris**.
Prolog, Ontology Modeling, Java, ADA, SQL, Mechatronics.

Scientific Engagement & Dissemination Activities

- 2018– **Associate Editor**, *Frontiers in Robotics and AI*.
- 2016– **Program Committee**, *HRI 2016, 2017, 2018, 2019*.
- 2016– **Associate Editor**, *IROS 2016, 2017, 2018*.
- 2018 **Program Committee**, *IJCAI 2018*, HAI 2018, AAMAS 2019.
- 2017 **alt.HRI chair**, *HRI 2017*.
- 2016 **Program Chair**, **Workshop on Cognitive Architectures for Social HRI**, *HRI 2016*.

Recent keynotes and invited talks

- 2018 **From Children Free-play to Robot AI**, *keynote @ AAAI Fall Symposium'18*.
- 2017 **Of Cognition and Social Robots**, *University of Edinburgh*.

Selected outreach activities

- 2011 **'Roboscopia' Human-Robot public theater performance**, *Science Day'11*.
<http://bit.ly/1LQpNWA>
- 2008–2011 **Toulouse's Cognitive Sciences Students Association**, *Co-chair*.
- 2008–2009 **South African SciFest festival**, *Science facilitator*.
- 1997–2012 **Executive Committee & Head of Educational Robotics**, *Planète Sciences*, including coordination of the *EUROBOT Robotic Competition*.

Technical Skills and Spoken Languages

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| Robotics | <ul style="list-style-type: none">Expert in cognitive robotics and human-robot interactionExpert in symbolic knowledge representationExpert PR2, Pepper, Nao developerContributor to ROS, OpenCVLead dev. MORSE simulator | Programming | <ul style="list-style-type: none">Python, modern C++, Prolog, SmallTalkDeep-learning frameworks: pytorch, TensorFlowOpen-source enthusiast GitHub: github.com/severin-lemaignan |
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Languages

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| French | Native |
| English | Fluent |
| German | Advanced |