Dr. Jennifer Renoux

Research Interests

Human-Machine teams, Planning for Information Gathering (Observation Planning), Epistemic Planning, Planning under Uncertainty, Multi-agent Systems

Professional Experience

2016–2020 **Post-doctoral researcher**, Örebro University, Örebro, Sweden.

- (2021) Humane-AI Network. Horizon 2020 project.
  - Task Leader of the creation of a Virtual Lab
  - Involved in a micro-project on social robotics with Umeå University
  - Involved in a micro-project on communication in human-machine team with Instituto Superior Técnico, Lisbon
- (2020) Bud-DIY Project. Collaboration with Örebro Municipality. Development of a home-service task planning system.
  - Involved in the requirement elicitation and technical development team.
- (2016-2020) MoveCare: Multiple-Actors Virtual Empathic Caregiver for the Elder. Horizon 2020 project.
  - Workpackage Leader for the Virtual Caregiver Workpackage
  - Main technical developer
- (2016-2019) E-care@Home: Swedish Interdisciplinary Distributed research environment.
  - Research on context-awareness
  - Involved in the data collection team

2012–2015 **Industrial Ph.D. Student**, Airbus Defence and Space, Val de Reuil, France.

Doctoral work: Contribution to multiagent planning for active information gathering
As part of the thesis contract (CIFRE) and in addition to research work, involved in the following projects:

- Dem@Care Project : Dementia Ambient care: Multi-sensing Monitoring for Intelligent Remote Management and Decision Support. Involved in the architecture definition and system integration
- Airbus Defence and Space robotic activities. Involved in the creation of a new robotic pole inside Airbus Defence and Space. Worked on Pioneers AT-3 and use of Robot Operating System. Prepared the robotic platform and implement reasoning algorithms for experimentation.

Doctoral Thesis

Title	*Contribution to multiagent planning for active information gathering*
Supervisor	Prof. Dr. Abdel-Illah Mouaddib, University of Caen Normandy
Co-Supervisor	Dr. Simon Le Gloannec, Airbus Defence and Space
Defense	September 18th, 2015

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Description In surveillance and search and rescue applications, agents need to coordinate their actions and to improve their beliefs about the world. Efficient coordination requires the agents to have the same beliefs. Therefore they need to communicate to converge towards common belief states. Information gathering is so not only a mean but becomes a goal of the decision process. This specific type of decision process is starting to be addressed in the literature for a single agent but to our knowledge, the multi-agent aspect and the convergence of beliefs are new issues. This thesis addresses these issues using an extended belief state that maintains not only beliefs about the world but also beliefs about other agents' beliefs. We use this extended belief state to enable agent to coordinate themselves without computing a global policy.

Education

Sep. 2015 **Doctoral degree**, *University of Caen Normandy*, Caen, France.

Oct. 2011 **M.Sc. in Computer Science**, *University Pierre and Marie Curie*, Paris - France, Specialized in Artificial Intelligence and Decision Making.
Master Thesis : Autonomous agents reasoning on physical world

Jul. 2010 **Master's Degree of Engineering**, *National Institute of Applied Sciences*, Lyon - France, Specialized in Computer Science.

Master and Bachelor Theses Supervision

2020 – in progress **Yara Ahmad**, *Bachelor Thesis*, Örebro University, Sweden.
Title: Prevention and Mitigation of Vulnerabilities within the MQTT Protocol.

2018 – 2019 **Joshua Hudson**, *Master Thesis*, Linköping University, Sweden.
Title: A Partially Observable Markov Decision Process for Breast Cancer Screening. Co-supervision with Pedro U. Lima (University of Lisbon, Portugal) and Lia da Silva Lopez (Combine, Göteborg, Sweden)

2019 **Ronny Malky**, *Bachelor Thesis*, Örebro University, Sweden.
Title: Design and development of an aplication for manual data insertion in a smart home environment

2018 **Saman Nisstany**, *Bachelor Thesis*, Örebro University, Sweden.
Title: Integration of the Flex Application Real+time updated dashboard with Outlook Calendar (industrial thesis)

Teaching Qualifications

2020 **A Practical Introduction to Teaching**, *Örebro University*, Örebro, Sweden.
Qualifying course for teachers in Higher Education.

Teaching Activities

2021 **Lecturer and co-Course Designer**, *Örebro University*, Örebro, Sweden.
Course: AI Ethics for Engineers for the SMARTER program

2020-2021 **Course Responsible**, *Örebro University*, Örebro, Sweden.
Course: Software Engineering for the Computer Engineering program

2020-2021 **Lecturer**, *Örebro University*, Örebro, Sweden.
Course: Software Engineering for the Civil Engineering program

2018-2021 **Teaching Assistant**, *Örebro University*, Örebro, Sweden.
Software Engineering for Civil Engineers, Multi-Agent Systems for the International Master on Robotics and Intelligent Systems program

2019-2020 **Lecturer**, *Örebro University*, Örebro, Sweden.
Course: Planning under Uncertainty for the International Master on Robotics and Intelligent Systems program

2013 **Teaching Assistant**, *National Institute of Applied Sciences*, Rouen, France.
Course: Introduction to Algorithms

Participation in Conferences and Journals

2018 Member of the organization team of the AAMAS'18 demo session

2015 – 2020 Reviewer for various journals and conferences, including Paladyn, Sensors, Küntzliche Intelligenz, AAAI, AAMAS, IJCAI, IROS

Science Popularization and Other Activities

2020 – current Writer and Reviewer for the French peer-reviewed science popularization website Papier-Mâché (`https://papiermachesciences.org/qui-sommes-nous/`)

2019 – current Co-President of the French group "NoFakeScience", writer of the op-ed "Health, Environment, Research: the scientific method overlooked by the media". Published in 4 different newspapers in 4 different French-speaking countries. Translated in English. `https://nofake.science`

2018 – current Participation to various science popularization events in France and Sweden.

2018 – current Owner and Writer of the popularization French-English blog "Jenny's AI-land"

April 2019 Participation to the French science popularization twitter account "En Direct du Labo" (Directly from the Lab)

September 2018 Invited to "Le Balado Scepticisme Scientifique" (The Skepticism and Scientific podcast) to give an introduction to Artificial Intelligence

Languages

French **Native**

English **Fluent**

German **Intermediate**

Swedish **Basic**

References

- **Prof. Dr. Amy Loutfi**
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- **Dr. Federico Pecora**
  Senior Lecturer, Center for Applied Autonomous Sensor Systems
  University of Örebro, Sweden
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  federico.pecora@oru.se
- **Prof. Dr. Pedro U. Lima**
  Professor, Instituto Superior Técnico
  University of Lisbon, Portugal
  Phone: +351 218418274 Email:
  pedro.lima@tecnico.ulisboa.pt