Dr. Wafa JOHAL
ARC DECRA Fellow 2021 -2024
Senior Lecturer (Associate Professor), University of Melbourne

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 School of Computer Science and Information Systems, FEIT, University of Melbourne, Victoria, Australia

EDUCATION

June 2016	**Ph.D in Applied Mathematics and Computer Sciences**
	University of Grenoble Alps, Laboratory of Informatics of Grenoble - MAGMA Team France
	> Thesis Topic : *Behavioral Styles for Human-Robot Interaction : Towards Plasticity in HRI*
	> Advisers : Prof. Sylvie Pesty & Prof. Gaëlle Calvary
June 2012	**M.S., Computer Sciences : Graphics, Vision & Robotics**
	University Joseph Fourier, Grenoble, France
	> Thesis Topic : *Multi-modal detection of intention of interaction by a companion robot*
	> Adviser : Dr. Dominique Vaufreydaz
June 2010	**B.S. B.A. Mathematics and Informatics applied to Cognitive Sciences** Pierre-Mendès France University, Grenoble,France Exchange Student for one year in Washington College, MA (U.S.A.), August 2009 - May 2010

ACADEMIC EMPLOYMENT

October 2021 October 2021	**Senior Lecturer (Assistant Professor)** , UNIVERSITY OF MELBOURNE, Australia School of Computing and Information System [Human-Robot Interaction] [Robots Learning] [Human-AI2] [Tangible Robots] [Cognitive Models for HRI] [Multi-Modal Interaction]
August 2019 October 2021	**Lecturer (Assistant Professor),** UNIVERSITY OF NEW SOUTH WALES, Sydney, Australia School of Computer Science and Engineering [Human-Robot Interaction] [Robots in Education] [Tangible Robots] [Cognitive Models for HRI] [Multi-Modal Interaction]
August 2019 October 2015	**Postdoctoral Scientist for NCCR Robotics, EPFL, Switzerland** **Computer Human Interaction for Learning and Instruction Lab** (Pr. Pierre Dillenbourg), **Mobile Robots Group - LSRO** (Pr. Francesco Mondada) [Human-Robot Interaction] [Robots in Education] [Tangible Robots] [Cognitive Models for HRI] [Multi-Modal Interaction]

TEACHING ACTIVITIES

University of New South Wales, Australia   2019 - ...

> School of Computer Science and Engineering
> > Lecturer : Robotics Vision and Human-Robot Interaction- COMP3431 (1L)
> > Lecturer : Image Formation, Image Processing and Feature Extraction COMP9517 (5L)
> > Lecturer : Memory, visual Design and Evaluation, Data Acquisition and Data Visualisation for HCI COMP9511 (3L)
> Faculty of Art and Design, Guest Lecturer : Robots for Education

École Polytechnique Fédérale de Lausanne, Switzerland   October 2015 - 2019

> > Visual Computing : Vision & Graphics, AR-game project using processing and various computer vision techniques.
> > Practical on Tangible Swarm Interaction, Master in Robotics

Grenoble Institute of Technology, France   October 2012 - July 2014

> > Instructor for ACVL : Software's Analysis, Conception and Validation.
> > Instructor for Introduction to Programming

Pierre Mendès-France University, Grenoble, France   October 2013- January 2014

> > Instructor for INF f-1 : Undergraduate Beginner Programming, Lectures & Practical Sessions

⚙ Research projects

DECRA Fellowship — 2021 - 2024
Proposal author, CI

This project is funded by the ARC. The goal of the project is to investigate novel interaction methods to allow novices to teach robots basic tasks for at home deployment.

`440k AUD` `3 Years Project`

GIRL - Gamified Interactive Robot Learning — April 2021 - December 2021
PI, Proposal author

The project aims to investigate how gamification could help novices to engage in robot teaching activities

`UNSW Faculty of Enginering` `20k AUD` `GROW Award`

IReCheck — Dec. 2019 - 2022
Proposal co-author, International Partner

The IReCheck project, is funded by the Swiss NSF and the French ANR. The goal of the project is to investigate social and task adaptation in a Learning by Teaching task with Typically Developed children and children with Neuro-Developmental Disorders.

`CHILI EPFL` `490k CHF` `3 Years Project`

Cowriting Kazakh — Oct. 2018 - 2020
Principal Coordinator, Proposal co-author ↗

The Cowriter Kazakh project, is a SNSF project that seeds for collaboration between Kazakhs and Swiss researchers. In this project we will deploy the Cowriter robotic system to help the transition from Cyrillic to Roman alphabet in Kazakhstan.

`CHILI EPFL` `10k CHF` `2 Years Project` `Nazarbayev University`

Animatas — Feb. 2018 - 2022
Proposal co-author, International Partner ↗
The Animatas project, is a EU MSCA ITN ETN that aims to explore the use of virtual agents in educational context.

`CHILI EPFL` `759k CHF` `3 Years Project` `3 PhD Students`

Cellulo — 2015 - 2019
Project manager, Proposal co-author ↗
The Cellulo project, funded by the NCCR Robotics (Swiss NSF), aims to design and propose new use of tangible swarm robots in education.

`CHILI/MOBOTS EPFL` `1Mo CHF` `4 Years` `2 PhD + 1 Postdoc`

Robots for Learning — 2015 - Today
Project manager, Proposal co-author ↗
I launched in Fall 2015 the Robots for Learning initiative that aims to create a research community on interactions aspect of using robots for learners. We organized several workshop and training events funded by the NCCR Robotics

`CHILI/MOBOTS EPFL` `18.5k CHF`

Find your voice! — Sept. 2018 - 2020
Local Coordinator, Proposal co-author
The project aims to help children who struggle to find their voice in social situations, by training them on joke telling using platform such as Alexa or Google Home. It is a project funded by the SRCD that seeds for cross-country and cross discipline collaboration between researchers.

`CHILI EPFL` `15k CHF` `Partners : UCLIC` `University of Sussex` `UC Irvine`

🏛 Academic Duties

Edition

- ◇ Associate Editor
  - › IEEE Robotics and Automation Letters (RA-L) - Human-Robot Interaction
- ◇ Editor Special Issue
  - › Frontiers Robotics and AI, on "Robots for Learning" 2020-2021.
  - › International Journal of Social Robotics - Springer, on "Robots for Learning", June 2018.
- ◇ **Program Chair** for the 9th ACM International Conference on Human-Agent Interaction (HAI 2021)
- ◇ **Women in AI co-chair** for the 34th Australasian Joint Conference on Artificial Intelligence (AJCAI 2021)
- ◇ **Publication co-chair** for the 8th ACM International Conference on Human-Agent Interaction (HAI 2020)
- ◇ Program Committee
  - › IEEE International Conference on Robot and Human Interactive Communication, RO-MAN 2018, 2019, 2020.
  - › ACM Interaction Design and Children (IDC) Conference, IDC 2018.
  - › International Conference on Human Robot Interaction, HRI 2018, HRI 2019, HRI 2020.
  - › International Conference on Social Robotics, ICSR 2016, ICSR 2020.
  - › Workshop on Behavior, Emotion and Representation :Building Blocks of Interaction at International Conference on Human-Agent Interaction, October 2017.

Review for :

Funding Agencies or Other Institutions
- ○ *Dutch Research Council (NWO)*, Reviewer for Research Proposal, March 2020
- ○ *TA-Swiss*, Social and Empathetic Robots Expert Panelist at Bern, September 2018
- ○ *ERA.Net RUS PLUS - FP7*, Robotics Expert Panelist at the S&T Council, October 2017

Journals
- ◇ *Frontiers in Robotics and AI*, 2019, 2020
- ◇ *International Journal of Human-Robot Interaction*, 2016, 2017, 2018, 2019
- ◇ *International Journal of Social Robotics*, 2016, 2017, 2018
- ◇ *IEEE Robotics and Automation Magazine (IEEE-RAM)*, 2016
- ◇ *Journal of Cognitive Systems Research*, 2016

- ◇ *Journal on Interaction Studies*, 2016
- ◇ *Transaction on Learning Technologies*, 2017
- ◇ *International Journal of Child-Computer Interaction*, 2017

Conferences

- › *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021
- › *ACM International Conference on Tangible, Embedded, and Embodied Interaction (TEI)*, 2020
- › *RAS IEEE International Conference on Robotics and Automation (ICRA)*, 2020
- › *ACM SIG Interaction Design and Children Conference (IDC)*, 2018
- › *ACM CHI Conference on Human Factors in Computing Systems (CHI)*, 2017
- › *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2017, 2018
- › *Springer International Conference on Social Robotics (ICSR)*, 2015, 2016, 2018, 2020
- › *ACM-SIG/IEEE International Conference on Human Robot Interaction (HRI)*, 2015, 2016, 2017, 2018, 2019
- › *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2014, 2015, 2016, 2018, 2019,

📈 SUPERVISION OF JUNIOR RESEARCHERS

Adam Goldin	PhD CSE UNSW, *Robot Planning and Reasoning using Projective Consciousness* April 2021 - …
Lina Phaijit*	PhD CSE UNSW, *A robot training system, allowing novices to teach robots basic motions* March 2021 - …
Oltan Sevinc*	Research Intern CSE UNSW, *Social Navigation in Home Environment* Jan. 2021 - …
Yu (Carson) Liu*	MPhil, CSE UNSW, *Speech-Driven Gesture Generation for Robots* Sep. 2020 - …
Michael O'Dea*	Research Intern, CSE UNSW, *CoReader - Adaptive Reading Companion* Jan. 2020 - Mai 2020
Pawel Golinski	Master Thesis, IC EPFL, *CoPainter - detect and remediate for dysgraphia through drawings* Jan. 2019 - June 2019
Hala Khodr	EDRS PhD Student EPFL, *Learner Swarm Interaction*. Dec. 2018 - now
Laila El Hammasy*	Master Thesis, STI EPFL, *Social and Task Engagement in a Multi-party Collaborative Learning Task* Oct. 2018 - February 2019)
Sina Shahmoradi	EDRS PhD Student EPFL, *ANIMATAS - Orchestration of Robot Populated Classrooms*. Sep. 2018 - July 2019
Utku Norman	EDIC PhD Student EPFL, *ANIMATAS - Mutual Modelling for Mutual Understanding*. Sep. 2018 - July 2019
Jauwairia Nasir	EDRS PhD Student EPFL, *ANIMATAS - Assessment of Multiparty engagement in Learning task*. Sep. 2018 - July 2019
Florian Zimmerman*	Master Thesis, IC EPFL, *Multi-modal Data Capture and Annotation* Feb. 2018 - Jul. 2018
Arzu Guneysu	EDRS PhD Student EPFL, *Cellulo - Upper-arm Gamified Rehabilitation with Tangible Robots*. Mar. 2017 - July 2019
Sonia Anderson Barbeau*	Bachelor Thesis in Swiss Pedagogical University (HEP) Vaud, *Le robot Cellulo comme instrument de régulation des conceptions erronées en lien avec l'apprentissage de la symétrie axiale au primaire*. Nov. 2016 - June 2017
Dr Thibault Asselborn	EDRS PhD Student EPFL, *CoWriter - Adaptive Learning in Child-Robot Interaction*. Jun. 2016 - now
Dr Elmira Yadollahi	EDRS PhD Student EPFL, *CoReader - CRI for Reading*. Nov. 2016 - 2020
Dr. Ayberk Ozgur	EDIC PhD Student EPFL, *Cellulo - Haptic Swarm Robots for Education*. October 2015 - December 2017
Dr Alexis Jacq	EDRS PhD Student EPFL, *CoWRiter Mutual-Modeling for Child-Robot Interaction*. October 2015 - July 2018

* primary supervisor

🎓 INSTITUTIONAL RESPONSIBILITIES

- › Member of the Head of School Advisory Committee at CSE UNSW (Nov 2020 - April 2021)
- › Early Career Academic Representative at the Faculty of Engineering Board Meeting (May 2020 - Apr 2021)
- › School of CSE's Early Career Academic Representative and Co-Chair at Eng. ECAN (Nov 2019 - Oct 2021)
- › AI-Seminar Series, @UNSW, fortnightly talks around AI research in a broad sense. (Mar 2020 - Jul 2021)

☰ ORGANIZATIONAL DUTIES

- › "Workshop on Robots for Learning - Learner Centered Design" @HRI 2021, R4L@HRI2021. Virtual - March 12, 2021.
- › "Workshop on Robots for Learning - Building Robots for Classroom Context" @RoMan 2019, R4L@ROMAN2019. New Delhi, India - October 14, 2019.
- › "Workshop on Robots for Learning - Adaptive Learning" @HRI 2019, R4L@HRI2019. Daegu, South Korea - March 11, 2019.

- › Winter School on "Developing Technologies in Educational Settings ", ⬀. EPFL, Switzerland - Feb 4-8, 2019.
- › "Workshop on the Near Future of Child Robot Interaction" @IDC 2018, CRI@IDC. Trondheim, Norway - June 20, 2018.
- › "Workshop on Robots for Learning - Inclusive Learning" @HRI 2018, R4L@HRI2018. Chicago, IL USA - March 5, 2018.
- › "Workshop on Robots for Learning" @HRI 2017, R4L@HRI. Vienna, Austria - March 6, 2017.
- › "Workshop on Robots for Learning" @RoMan 2016, R4L. New York, USA - August 27, 2016.
- › "Workshop on Social Robots in Education" , @NewFriends 2016. Barcelona, Spain - November 2, 2016.
- › "Workshop Affect, Compagnon Artificiel, Interaction ", WACAI 2012. Grenoble, France - 15 & 16 November 2012.
- › PersyCup Robotic Challenge. Grenoble, France - 21 Mai 2015.

💬 Invited Talks

- › Let's talk robotics, online podcast, Exaptec. May 2021.
- › Social (Flying) Robots for Education. EduDrone Conference. September 2020.
- › Orchestration of robot-populated classrooms. UC Sand Diego, California, USA. November 2019.
- › Robots in Education. Swiss Technology Assessment Foundation. Focus group on Robotics. Bern Switzerland, May 2019.
- › From diagnosis to adaptive learning : CoWriter and Dysgraphia. Applied Machine Learning Days, Lausanne Switzerland, January 2019.
- › Robots for Learning. University of Nazerbachev, Astana, Kazakhstan, January 2019.
- › Assistive Human-Robot Interaction : From Education to Re-Education. ETH Zurich, Switzerland Dec. 2018.
- › Teacher symposium on Computational Thinking, Entre-Deux-Lacs, HEPL, Yverdon-les-bains. Switzerland, Nov. 2018.
- › HRI 2019 Mini symposium, Stanford University, Palo Alto, CA, USA. Nov. 2018.
- › Tangible Human-Robot Interaction : From Learning to Re-Learning, BioX Lab - Stanford, Palo Alto, CA, USA. Nov. 2018.
- › Enabling smooth and personalized user-robot interaction to enhance learning, University of New South Wales, Sydney, Australia. Nov. 2018.
- › Swarm Robotics - Pushing the state of the art, Rome, Italy, Oct. 2018.
- › HRI 2018 Mini symposium, Cornell University, Ithaca, NY, USA. Nov. 2017.
- › The Classroom of Tomorrow – Swarm Robots in Education, Swissnex Boston, USA, April 2016.
- › Non-verbal Communication in Human Robot Interaction, MIT Media Lab, Personal Robotics Group, April 2016.
- › Engagement & adaptation : How human-robot interaction can help in everyday life, Naver Labs Europe, December 2016.

🏆 Awards

2021 GROW Award - UNSW Faculty of Engineering 2021 - 20kAUD Early Career Research Award.
2020 UNSW Faculty of Engineering 2020 Award for the category Equity, Diversity and Inclusion.
2020 Best Demo Award for our paper CoWritng Kazakh - Learning a New Script with a Robot Demonstration.
2019 Best Reviewer Award for the 27th International Conference on Computers in Education.
2018 Best Paper Award : Honorable Mention. *When Deictic Gestures in a Robot Can Harm Child-Robot Collaboration.* ACM Interaction Design and Children Conference (IDC 2018), Trondheim, Norway.
2017 Best Paper Award : ACM Human-robot Interaction Conference (HRI), Vienna, Austria.
2015 Winner of the Social Touch Challenge at International Conference on Multimodal Interaction (ICMI). Nov. 2015.
2015 Best Paper Award : Honorable Mention, ACM Human-robot Interaction Conference 2015 (HRI), Portland, USA.
2015 HRI Pioneers : International Conference on Human Robot Interaction 2015 (HRI), Portland, USA.

66 References

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</> Skills

Robotics Platforms :
- › Cellulo : Tangible root designed for human-swarm interactions.
- › Reeti : PC-Bot with mounted motorized and expressive head By Robopec
- › Kompai : a robot to assist seniors and dependent persons at home By Robosoft
- › Nao : a small humanoid robot for child-robot interaction By Aldebaran

Computer Programming :
- › Python, C++, Java, Javascript, Bash scripting , Cmake, OCaml, Urbi, Prolog
- › QtQuick, ROS, OpenCV, OpenGL, Kinect SDK, Naoqi
- › Numerical Analysis : Jupyter, Scipy, Sklearn R, Gnuplot, Numpy
- › Version Control : Svn, Git

Operating Systems :
- › Linux (Ubuntu, Archlinux), Apple OS X, Microsoft Windows family,

🌐 Languages

French	●●●●●
English	●●●●○
Italian	●●○○○

🧑 Career Breaks

Feb. 2017 - May 2017. Maternity leave after the birth of my son, Lausanne, Switzerland.
May. 2021 - September 2021. Maternity leave after the birth of my daughter, Sydney Australia.

☕ Others

1996-2010	Scout at Eclaireurs Eclaireuses de France (EEDF)
2004	Youth Worker Diploma (BAFA - Brevet d'Aptitude aux Fonctions d'Animateur)