

Hang Yin

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Robot Learning · Human-Robot Interaction · Artificial Intelligence

Education

- 2012–2018 **PhD, PhD, Swiss Federal Institute of Technology Lausanne (EPFL) and Instituto Superior Técnico (IST), University of Lisbon.**
Thesis: Incorporating Human Expertise in Robot Motion Learning and Synthesis
Supervisors: Prof. Aude Billard, Prof. Ana Paiva and Prof. Francisco S. Melo
- 2007–2010 **Master in Mechatronics, Shanghai Jiao Tong University.**
Thesis: Locomotion of LOCH Humanoid: Dynamical Simulation, Gait Planning and Interactive Operation
- 2003–2007 **Bachelors in Mechanical Engineering and Computer Engineering (Minor), Shanghai Jiao Tong University.**

Professional Experience

- 2018– **Centre for Autonomous Systems, KTH Royal Institute of Technology.**
PostDoctoral Researcher
 - Co-lead the group research direction on manipulating deformable objects.
 - Co-supervise PhD students.
- 2012–2018 **Laboratory of Learning Algorithm and Systems, EPFL; Intelligent Agents and Synthetic Characters Group, IST, University of Lisbon and INESC-ID.**
Doctoral Assistant:
 - CoWriter: research of machine learning algorithm and motor control modules for robot-assisted children handwriting tutoring.
 - NCCR PbD of fine manipulation: research of probabilistic imitation learning and optimal control for compliant motion learning.
 - AMIGOS: research of deep generative model for skill learning from demonstrated examples.
- 2010–2012 **SIEMENS Industry Software Ltd., Shanghai.**
Software Engineer:
 - Development and maintenance of knowledge fusion modules in Unigraphics NX for automating the sketch of ship building.
 - Assisting in the communication with customers from shipyards on the product design.
- 2009–2010 **Nanyang Technological University, Singapore.**
Project Officer: development on locomotion planning and dynamical simulation of an adult-sized humanoid robot.

Publications

- 2018 **H. Yin, F. Melo, A. Billard and A. Paiva, *Boosting Robot Learning and Control with Domain Constraints*, In Proceedings of Robotics: Science and Systems (RSS), RSS Pioneer Workshop, Pittsburg, USA [RSS, Rank: A*(CORE2017)]**

- 2018 **H. Yin**, F. Melo, A. Paiva and A. Billard, *An Ensemble Inverse Optimal Control Approach for Robotic Task Learning and Adaptation*, Autonomous Robots [**AURO, IF2016: 2.706**]
- 2018 S. Chandra, R. Paradedda, **H. Yin**, P. Dillenbourg, R. Prada and A. Paiva, *Do Children Perceive Whether a Robotic Peer is Learning or Not*, In Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI), Chicago, USA [**HRI, Rank: A2(Qualis)**]
- 2017 S. Chandra, R. Paradedda, **H. Yin**, P. Dillenbourg, R. Prada and A. Paiva, *Affect of robot's competencies on children's perception*, In Proceedings of the International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), São Paulo, Brazil [**AAMAS, Rank: A1(Qualis)**]
- 2017 **H. Yin**, F. Melo, A. Billard and A. Paiva, *Associate Latent Encodings in Learning from Demonstrations*, In Proceedings of The Thirty-First AAAI Conference on Artificial Intelligence (AAAI), San Francisco, USA [**AAAI, Rank: A1(Qualis)**]
- 2016 **H. Yin**, P. Alves-Oliveira, F. Melo, A. Billard and A. Paiva, *Synthesizing Robotic Handwriting Motion by Learning from Human Demonstrations*, In Proceedings of International Joint Conference on Artificial Intelligence (IJCAI), New York, USA [**IJCAI, Rank: A1(Qualis)**]
- 2015 **H. Yin**, A. Billard and A. Paiva, *Bidirectional Learning of Handwriting Skill in Human Robot Interaction*, In Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI), HRI-Pioneer Workshop, Portland, USA [**HRI, Rank: A2(Qualis)**]
- 2014 **H. Yin**, A. Paiva and A. Billard, *Learning Cost Function and Trajectory for Robotic Writing Motion*, In Proceedings of the IEEE-RAS International Conference on Humanoid Robots (HUMANOIDS), Madrid, Spain [**HUMANOIDS, Rank: B2(Qualis)**]
- 2014 M. Li, **H. Yin**, K. Tahara and A. Billard, *Learning Object-level Impedance Control for Robust Grasping and Dexterous Manipulation*, In Proceedings of the IEEE International Conference on Robotics and Automation (ICRA), Hong Kong, China [**ICRA, Rank: A1(Qualis)**]
- 2010 **H. Yin**, Y. H. Yan, *Design of a Humanoid Robot Simulation Platform Based on MRDS*, Journal of Shanghai Jiao Tong University
- 2010 Y. H. Yan, D. G. Chen, **H. Yin**, *Optics-based Motion Measurement for a Catheter Navigation System: A Novel and Low Cost System*, Springer's Lecture Notes in Computer Science
- 2010 G. Q. Zhang, M. Xie, **H. Yin**, L. Wang, H. J. Yang, *Planning and Control of Biped Walking along Curved Paths on Unknown and Uneven Terrain*, Springer's Lecture Notes in Artificial Intelligence

Academic Activities

2018-2019 Organization Committee of RSS Pioneers 2019.

2015-2020 Reviewers for conferences and journals including IROS, ICRA, HUMANOIDS, RSS, CoRL, AAAI, HRI, ROMAN, ICSR, AI-HRI, IEEE Robotics and Automation Letters, IEEE Robotics & Automation Magazine and International Journal of Social Robotics.

Teaching Activities

2019-2020 DD2430 Project Course in Data Science, KTH

2013-2014 Semester project - "Physical Human-Robot Interaction without Force Sensor", EPFL

Talks

Dec 2017 Invited talk at Wuhan University and Cobot Corp., China.

Feb 2017 Oral presentation at AAAI, San Francisco, USA.

July 2016 Oral presentation at IJCAI, New York, USA.

Nov 2014 Oral presentation at Humanoids, Madrid, Spain.

Honors and Awards

2018 Best PhD Thesis Nomination in EDRS, EPFL

2018 Travel Grant for RSS Pioneers

2015 Travel Grant for HRI Pioneers

2012 IST-EPFL Joint Doctoral Initiative Fellowship

2010 Excellent Master Thesis Award of Shanghai Jiao Tong University

2003-2007 Excellent Academic Scholarships and Student Award of Shanghai Jiao Tong University