

Selected references from the partners

<p><u>Martin Cooney</u>, Sepideh Pashami, Yuantao Fan, Anita Sant'Anna, Yinrong Ma, Tianyi Zhang, Yuwei Zhao, Wolfgang Hotze, Jeremy Heyne, Cristofer Englund, Achim J. Lillenthal, and Tom Ziemke. Exploring interactive capabilities for home robots via medium fidelity prototyping. arXiv:1710.01541 [cs.RO]. (2017). Description: Brings together description of some work on robots, including four studies conducted by the first author on first aid robots.</p>	<p>First aid robot, thermal, drone</p>
<p>Fredrik Tell. <i>CCUAV: Cloud Center for Unmanned Aerial Vehicle</i>. Bachelor's thesis. Supervisor: <u>Eric Järpe</u> and Naveed Muhammad at Halmstad University, <u>Erik Halvordsson</u> at PDS Vision and Fredrik Falkman at Swedish Sea Rescue Society (see http://hh.diva-portal.org/smash/record.jsf?pid=diva2%3A1183178&dswid=blank).</p>	<p>First aid robot, drone</p>
<p>Jeremy Heyne. 2015. Assistance-seeking strategy for a flying robot during a healthcare emergency response, Internship Report, Halmstad University. Supervisor: <u>Martin Cooney</u> Description: a drone detects nearby humans and estimates age and closeness and seeks to fly to the closest adult</p>	<p>First aid robot, drone</p>
<p>Wolfgang Hotze. 2016. Robotic First Aid: Using a mobile robot to localise and visualise points of interest for first aid. Master's Thesis, Halmstad University. Supervisor: <u>Martin Cooney</u> Description: A mobile robot patrols an environment, finding human-sized/human-temperature anomalies, and seeks to localize body parts like the face and hands on a map</p>	<p>First aid robot, thermal</p>
<p>T. Zhang and Y. Zhao, Recognition for Robot First Aid, Master's thesis, Halmstad University, School of Information Science, Computer and Electrical Engineering, 2015. Supervisor: <u>Martin Cooney</u> Description: Recognizing some first aid signals (circulation, airway, breathing, and deadly bleeding) audiovisually for a robot.</p>	<p>First aid robot</p>
<p>Jens Lundstrom, Wagner De Morais, <u>Martin Cooney</u>. 2015. A holistic smart home demonstrator for anomaly detection and response IEEE International Conference on Pervasive Computing and Communication Workshops (PerCom Workshops). Description: Using a robot to go to a fallen person and ask if they are okay.</p>	<p>First aid robot</p>
<p><u>Martin Cooney</u>, Josef Bigun (2017). PastVision: Exploring "Seeing" into the Near Past with Thermal Touch Sensing and Object Detection—For Robot Monitoring of Medicine Intake by Dementia Patients. 30th Annual Workshop of the Swedish Artificial Intelligence Society (SAIS 2017).</p>	<p>Thermal, Healthcare robot</p>

<p>Description: Use of a thermal and RGB camera by a robot to recognize a person's activities</p>	
<p><u>Martin Cooney</u>, Josef Bigun. (2017) PastVision+: Thermovisual Inference of Recent Medicine Intake by Detecting Heated Objects and Cooled Lips. <i>Frontiers in Robotics and AI Computational Intelligence: Intentions in HRI</i>, 4:61. doi: 10.3389/frobt.2017.00061 Description: (Same as above.)</p>	<p>Thermal, Healthcare robot</p>
<p><u>Martin Cooney</u>, Sepideh Pashami, Anita Sant'Anna, Yuantao Fan, Sławomir Nowaczyk. (2018). Pitfalls of Affective Computing: How can the automatic visual communication of emotions lead to harm, and what can be done to mitigate such risks?. In <i>WWW '18 Companion: The 2018 Web Conference Companion: Workshop on Re-coding Black Mirror</i>, 4 pages. (accepted) Description: Work done on visual communication by a robot, for therapy through art</p>	<p>Healthcare robot</p>
<p>Martin Cooney, Francesco Zanlungo, Shuichi Nishio, & Hiroshi Ishiguro (2012) Designing a Flying Humanoid Robot (FHR): Effects of Flight on Interactive Communication. In <i>Proceedings of the 21st IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2012</i>, pp. 364 – 371). doi:10.1109/ROMAN.2012.6343780 Description: Work done on flying robots: motions, how humans perceive them</p>	<p>Flying robot</p>
<p>2014, Thorsteinn Rögnvaldsson, Henrik Norrman, Stefan Bytner and <u>Eric Järpe</u> Estimating p-values for deviation detection <i>2014 IEEE Eighth International Conference on Self-Adaptive and Self-Organizing Systems</i>, pp 100-109</p>	<p>Relevant technique for deviation detection</p>
<p>2001, <u>Eric Järpe</u>. Surveillance, Environmental <i>Encyclopedia of environmetrics</i>, John Wiley & sons.</p>	<p>Model for spatio-temporal shift process</p>
<p><u>Martin Cooney</u>, & Anita Sant'Anna. (2017) Avoiding Playfulness Gone Wrong: Exploring Multi-objective Reaching Motion Generation in a Social Robot. <i>International Journal of Social Robotics</i>. DOI 10.1007/s12369-017-0411-1</p>	<p>Robot motion generation</p>
<p>Yuantao Fan, Maytheewat Aramrattana, Saeed Gholami Shahbandi, Hassan Mashad Nemati, and <u>Björn Åstrand</u>. Infrastructure Mapping in Well-Structured Environments Using MAV. (2016, June). In <i>Conference Towards Autonomous Robotic Systems</i> (pp. 116-126). Springer, Cham.</p>	<p>Flying robot</p>
<p>Stefan K. Ericson, <u>Björn S. Åstrand</u>. (2018). Analysis of two visual</p>	<p>Detection, outdoors</p>

odometry systems for use in an agricultural field environment. Biosystems Engineering, 166, 116-125.	
Hassan M. Nemati, Saeed Gholami Shahbandi and <u>Björn Åstrand</u> . (2016). Human Tracking in Occlusion based on Reappearance Event Estimation. In 13th International Conference on Informatics in Control, Automation and Robotics, Lisbon, Portugal, 29-31 July, 2016 (Vol. 2, pp. 505-511).	Tracking people
Klas Hedenberg and <u>Björn Åstrand</u> . (2016). 3D Sensors on Driverless Trucks for Detection of Overhanging Objects in the Pathway. In Autonomous Industrial Vehicles: From the Laboratory to the Factory Floor. ASTM International.	Detection
Hassan Nemati, <u>Björn Åstrand</u> . (2014) Tracking of People in Paper Mill Warehouse Using Laser Range Sensor. In Modelling Symposium (EMS), 2014 European (pp. 52-57). IEEE.	Tracking people
Henrik Andreasson, Abdelbaki Bouguerra, <u>Björn Åstrand</u> and Thorsteinn Rögnvaldsson. (2014). Gold-fish SLAM: An application of SLAM to localize AGVs. In Field and Service Robotics (pp. 585-598). Springer, Berlin, Heidelberg.	Robot motion generation
MR Bouguelia, A Karlsson, S Pashami, <u>S Nowaczyk</u> , A Holst. Mode tracking using multiple data streams. Information Fusion 43, 33-46.	Tracking, Machine learning
<u>EE Aksoy</u> , A Abramov, J Dörr, K Ning, B Dellen, F Wörgötter, Learning the semantics of object-action relations by observation. The International Journal of Robotics Research 30 (10), 1229-1249, 2011	Activity recognition, computer vision
<u>EE Aksoy</u> , A Orhan, F Wörgötter, Semantic decomposition and recognition of long and complex manipulation action sequences, International Journal of Computer Vision 122 (1), 84-115, 2017	Activity recognition, computer vision
J Rothfuss, F Ferreira, <u>EE Aksoy</u> , Y Zhou, T Asfour, Deep Episodic Memory: Encoding, Recalling, and Predicting Episodic Experiences for Robot Action Execution. arXiv:1801.04134, 2018	Activity recognition, computer vision, deep learning
<u>J. Bigun</u> , G.H. Granlund, and J. Wiklund. Multidimensional orientation estimation with applications to texture analysis and optical flow. IEEE-PAMI, 13(8):775-790, 1991. Number of citations: 451	Computer vision, signal analysis
<u>J. Bigun</u> and G.H. Granlund. Optimal orientation detection of linear symmetry. In First International Conference on Computer Vision, ICCV, London, June 8-11, pages 433-438. IEEE Computer Society, 1987. (Tech. Report LiTH-ISY-I-0828, Linköping University, Sweden 1986; Chap. 4, in Lic. Thesis, Linköping studies in science and technology No.85 1986). Number of citations: 315	Computer vision, signal analysis
B. Duc, S. Fischer, and <u>J. Bigun</u> . Face authentication with Gabor information on deformable graphs. IEEE Trans. on Image Processing, 8(4):504-516, 1999. Number of citations: 201	Computer vision, signal analysis
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A Ranftl, F Alonso-Fernandez, S Karlsson. Face tracking using optical flow. Biometrics Special Interest Group (BIOSIG), 2015 International Conference of. 6 2015.	Tracking, computer vision
HM Nemati, Y Fan, F Alonso-Fernandez. Hand Detection and Gesture Recognition Using Symmetric Patterns. Recent Developments in Intelligent Information and Database Systems, 365-375 2016.	Recognition, computer vision

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S. P. Yeong, L. M. King, S. S. Dol. A Review on Marine Search and Rescue Operations Using Unmanned Aerial Vehicles. World Academy of Science, Engineering and Technology International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering Vol:9, No:2, 2015