Simone Angarano

PHD STUDENT · MACHINE LEARNING FOR ROBOTICS

Politecnico di Torino, Turin, Italy
Interdepartmental Center for Service Robotics (PIC4SeR)
✉ Mail | ▤ Scholar | 🏠 Website | 🐙 GitHub

Education

PhD in Electrical, Electronics, and Communications Engineering   *Turin, Italy*
POLITECNICO DI TORINO - INTERDEPARTMENTAL CENTER FOR SERVICE ROBOTICS (PIC4SeR)   *11/2021 - present*
- Project: Efficient Deep Learning models for Robot perception, control, and decision-making.
- Advisor: Prof. Marcello Chiaberge.

MS in Mechatronic Engineering (110/110 with honors)   *Turin, Italy*
POLITECNICO DI TORINO   *10/2018 - 10/2020*
- Thesis: Deep Learning Methodologies for Ultra-Wideband Ranging Error Compensation.
- Advisor: Prof. Marcello Chiaberge.

BS in Electronic Engineering (103/110)   *Turin, Italy*
POLITECNICO DI TORINO   *10/2015 - 10/2018*
- Final Project: FPGA Implementation of an End-to-end Digital Filter.
- Advisor: Prof. Maurizio Zamboni.

Research Experience

Research Fellow   *Turin, Italy*
POLITECNICO DI TORINO - INTERDEPARTMENTAL CENTER FOR SERVICE ROBOTICS (PIC4SeR)   *11/2020 - 10/2021*
- Project: Machine Learning for robot perception and navigation.
- Advisor: Prof. Marcello Chiaberge.

Publications

PUBLISHED

Mazzia, V., **Angarano, S.**, Salvetti, F., Angelini, F., & Chiaberge, M. (2022). Action Transformer: A Self-attention Model for Short-time Pose-based Human Action Recognition. Pattern Recognition, 124, 108487.

Angarano, S., Salvetti, F., Mazzia, V., Fantin, G., Gandini, D., & Chiaberge, M. (2022). Ultra-Low-Power Range Error Mitigation for Ultra-Wideband Precise Localization. In Science and Information Conference (pp. 814-824). Springer, Cham.

Angarano, S., Mazzia, V., Salvetti, F., Fantin, G., & Chiaberge, M. (2021). Robust ultra-wideband range error mitigation with deep learning at the edge. Engineering Applications of Artificial Intelligence, 102, 104278.

ACCEPTED

Salvetti, F., **Angarano, S.**, Martini, M., Cerrato, S., & Chiaberge, M. (2022). Waypoint Generation in Row-based Crops with Deep Learning and Contrastive Clustering. arXiv preprint arXiv:2206.11623. Accepted at ECML PKDD 2022

Martini, M., Cerrato, S., Salvetti, F., **Angarano, S.**, & Chiaberge, M. (2022). Position-Agnostic Autonomous Navigation in Vineyards with Deep Reinforcement Learning. arXiv preprint arXiv:2206.14155. Accepted at CASE 2022

UNDER REVIEW

Angarano, S., Salvetti, F., Martini, M., & Chiaberge, M. (2022). Generative Adversarial Super-Resolution at the Edge with Knowledge Distillation. arXiv preprint arXiv:2209.03355.

Angarano, S., Martini, M., Salvetti, F., Mazzia, V., & Chiaberge, M. (2022). Back-to-Bones: Rediscovering the Role of Backbones in Domain Generalization. arXiv preprint arXiv:2209.01121.

Presentations

CONFERENCES

ECML PKDD, 2022. Poster presentation *"Waypoint Generation in Row-based Crops with Deep Learning and Contrastive Clustering"*. Grenoble, France.

SAI Computing Conference, 2022. Oral presentation *"Ultra-Low-Power Range Error Mitigation for Ultra-Wideband Precise Localization"*. London, UK.

IRIM Conference, 2021. Poster presentation *"Local Planners with Deep Reinforcement Learning for Indoor Autonomous Navigation"*. Rome, Italy.

OTHER EVENTS

PhD Poster Day, 2022. Poster presentation *"Efficient Deep Learning models for Robot perception, control, and decision-making"*. Turin, Italy.

Data, AI, and Robotics @PoliTo, 2021. Poster presentation *"AI@PIC4SeR"*. Turin, Italy.

Teaching Experience

ACADEMIC

2022-2023	**Laboratory Teaching Assistant**, Electronics Fundamentals and Applications.	*Politecnico di Torino*
2022	**Examinator**, Electronic Systems for Mechatronics.	*Politecnico di Torino*
2022	**Laboratory Teaching Assistant**, Electronic Systems for Mechatronics.	*Politecnico di Torino*
2017-2020	**Teacher**, Linear Algebra and Geometry Tutoring Course.	*Politecnico di Torino*
2016-2019	**Teacher**, Calculus Tutoring Course.	*Politecnico di Torino*

COMPANY

2022	**Teacher**, Machine Learning 101.	*2+ Consulting*
2022	**Teacher**, Machine Learning 101.	*4Marketing*

Mentoring

2022	**Bee Detection and Counting with Deep Learning at the Edge**, MS Thesis Tutor.	*PIC4SeR*
2022	**Learning Odometric Error in Mobile Robots with Deep Learning**, MS Thesis Tutor.	*PIC4SeR*
2022	**Running Analysis with Multivariate Timeseries Regression**, MS Thesis Tutor.	*PIC4SeR*
2022	**Hand Gesture Recognition for Robotic Domestic Assistant**, MS Thesis Tutor.	*PIC4SeR*
2022	**Vineyard Segmentation with Deep Learning for 4.0 Agriculture**, MS Thesis Tutor.	*PIC4SeR*
2021	**Indoor Navigation with Low-power Vocal Assistant at the Edge**, MS Thesis Tutor.	*PIC4SeR*
2021	**Visual and Tactile Perception to Play Jenga with a Robotic Arm**, MS Thesis Tutor.	*PIC4SeR*
2021	**Face Recognition with Deep Learning for Service Robotics**, MS Thesis Tutor.	*PIC4SeR*
2021	**Deep Computer Vision at the Edge for Apple Counting**, MS Thesis Tutor.	*PIC4SeR*
2021	**Semantic Scene Segmentation for Indoor Robot Navigation**, MS Thesis Tutor.	*PIC4SeR*

Grants

2020-2021	**Graduate Research Fellow Grant**, Politecnico di Torino.	*€ 18,000*
2016-2020	**Tuition Fees Refund for Academic Merit**, Politecnico di Torino.	*€ 1,000*
2014-2015	**"SuperMedia" Scholarship**, Italian National Social Security Institute.	*€ 2,200*

Additional Activities

INSTITUTIONAL ROLES

2021-2022	**Department of Electronics and Telecommunications Council**, *PhD Representative*.	*Politecnico di Torino*
2019-2020	**Department of Electronics and Telecommunications Council**, *Student Representative*.	*Politecnico di Torino*
2019-2020	**Consortium of Leading Universities of Science and Technology for Education and Research (CLUSTER)**, *Representative for Politecnico di Torino*.	*European Union*
2017-2019	**Academic Senate**, *Student Representative*.	*Politecnico di Torino*

VOLUNTEER WORK

2015-2020	**Lavori in Corso Student Association**, *Board Member*. Student representation, Welcoming and study help for freshmen, Cultural events, Social media management.	*Politecnico di Torino*
2015-2022	**Il Cammino Association**, *Volunteer*. Helping kids at risk of exclusion with their homework.	*Turin, Italy*
2014-2022	**Meeting for Friendship amongst Peoples Foundation**, *Volunteer*. Electrician, Catering assistant, Surveillant.	*Rimini, Italy*
2008-2022	**Banco Alimentare Foundation**, *Volunteer*. Recovery of surplus food in favor of charity organizations.	*Italy*