

Contact & links

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Languages

Spanish: Native
English: Adv. (C1)
German: Adv. (B2)
Italian: Basic (A2)

Skills

AI, Deep Learning, NeRF,
Differentiable Rendering,
Scene Understanding,
3D geometry, SLAM

Programming

Languages
Python, C/C++
Libraries
PyTorch, OpenCV, ROS,
sklearn, Pandas

References

Prof. Chris McCool
University of Bonn
cmccool@uni-bonn.de

Mario Munich
Embodied, Inc.
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Juan Tarrio
SLAMCore, Ltd.
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Prof. Sol Pedre
CAREM25, CNEA
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ClausSmitt

AI Perception Roboticist

Education

2020-2024	PhD. Engineering (summa cum laude) <i>Thesis: Robotic Vision for Precision Intervention in Horticulture.</i>	University of Bonn, Germany
2014-2016	Master of Engineering <i>Thesis: Haptic telemanipulator for industrial robot arms.</i>	Instituto Balseiro, Argentina
2008-2014	Electrical Engineer <i>Thesis: Active vibration cancelling for parallel robots.</i>	Universidad Nacional de Rosario, Argentina
2005-2007	Electrical Technician	Colegio San José Nº 8013, Argentina

Skills

Experience

Since 05/24	State Estimation Engineer Vision and LiDAR perception onboard autonomous trucks for yard operation.	Outrider, CO, USA
01/20-04/24	Research Assistant 3D neural scene understanding for agricultural robotics.	University of Bonn, Germany
01/19-12/19	Computer Vision Trainee Visual SLAM & Sensor Fusion algorithms for consumer robots.	iRobot, CA, USA
09/16-12/18	R&D Engineer Edge-based monocular SLAM system for UAVs.	CNEA, Bariloche, Argentina
03/13-07/13	Intern System test and software tools for collaborative robots evaluation.	KUKA Labs, Augsburg, Germany

Selected Publications

C. Smitt, M. Halstead, P. Zimmer, T. Läbe, E. Guclu, C. Stachniss, C. McCool. "PAg-NeRF: Towards fast and efficient end-to-end panoptic 3D representations for agricultural robotics", IEEE Robotics and Automation Letters (RA-L), presented at ICRA 2024.

IROS 2022 Best AgRobotics Paper Award:

C. Smitt, M. Halstead, A. Ahmadi, C. McCool, "Explicitly Incorporating Spatial Information to Recurrent Networks for Agriculture", IEEE Robotics and Automation Letters (RA-L), presented at IROS 2022.

C. Smitt, M. Halstead, T. Zaenker, M. Bennewitz, C. McCool, "PATHoBot: A Robot for Glasshouse Crop Phenotyping and Intervention", IEEE International Conference on Robotics and Automation (ICRA), 2021.

Teaching

01/16-04/23	Teaching Assistant Courses: Python applied to Machine Learning; MSc Project Mobile Sensing & Robotics; MSc Project Technology & precision Farming; Signals & Systems; Digital Electronics	University of Bonn & Instituto Balseiro
Since 02/16	Academic Supervision 4 MSc theses; 3 Msc projects; 2 Summer school projects	University of Bonn, Instituto Balseiro & CIFASIS