



Contact & links

claus.smitt@gmail.com
Madrid, Spain

clausmitt.com 
Claus Smitt 
clausmitt 
Ivisroot 

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.
mariomu@gmail.com

Juan Tarrio
SLAMCore, Ltd.
juan.tarrio@gmail.com

Prof. Sol Pedre
CAREM25, CNEA
solpedre@gmail.com

Claus Smitt

AI Perception Robotician

Education

- 2020-2024 **PhD. Engineering (summa cum laude)** **University of Bonn, Germany**
Thesis: Robotic Vision for Precision Intervention in Horticulture.
- 2014-2016 **Master of Engineering** **Instituto Balseiro, Argentina**
Thesis: Haptic telemanipulator for industrial robot arms.
- 2008-2014 **Electrical Engineer** **Universidad Nacional de Rosario, Argentina**
Thesis: Active vibration cancelling for parallel robots.
- 2005-2007 **Electrical Technician** **Colegio San José N° 8013, Argentina**

Experience

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

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