



Nathan Corral

✉ nathan.b.corral@gmail.com

🌐 <https://nathancorral.com>

🌐 www.linkedin.com/in/nathan-corral

☎ +49 160 9175 1918

👤 [NathanCorral](#)

As a Computer Engineer with a strong foundation in IoT and cloud-based solutions, I am eager to advance connected technologies through innovative software development and system integration.

Job Experience

- 📌 **Humanoid Robots Lab – University of Bonn** *Research Assistant*
09.2021 – 09.2022 *Bonn, Germany*
 - Contributed to research and publications in personalized robot navigation.
 - Programmed the ROS interface for 3D localization of humans from an RGBD camera using deep learning and implemented this on a real robot for autonomous navigation.
- 📌 **Head Rush Technologies** *Contract Engineer*
12.2019 – 04.2020 *Boulder, USA*
 - Contract was to code the firmware on a ATmega328PB Microchip for a proof-of-concept system.
 - Completed field tests and project documentation.
 - Success from this prototype led to further development, ultimately released as their "Catch-and-Hold Technology".
- 📌 **Aqronos** *Software Engineer*
11.2018 – 12.2019 *Denver, USA*
 - Designed ROS nodes for visualization of the company's LiDAR prototype.
 - Structured UDP packets and coded both ends of sending and receiving modules.
 - Interact with a REST API hosted on the embedded system for configuring hyperparameters.
 - Filtered point clouds and grouped objects using the C++ Point Cloud Library.

Education

- 📌 **M.Sc. University of Bonn** *Computer Science*
10.2020 – 09.2023 *Note: 1.7*
- 📌 **B.Sc. University of Illinois Urbana-Champaign** *Computer Engineering*
08.2013 – 05.2017 *GPA: 3.55/4.0*

Projects

- 2024
- 📌 **ROS 2 Whisper** [Video](#), [Source](#)
As an extension of this open source project, I implemented boarder-less, live audio transcription. Written in C++, my code contribution emphasizes:
 - Scalability, using both inheritance and composition in object-oriented programming behavior.
 - Efficiency, through intentional memory management, thread-safe callbacks and work splitting across multiple nodes.
 - Simplicity, in the well thought-out implementation of complex merging algorithms.

Publications

📖 J. de Heuvel, **N. Corral**, et al. “Learning depth vision-based personalized robot navigation from dynamic demonstrations in virtual reality” *IROS*, 2023

Skills

Languages	📖	· English (Native)	· German (C1)						
Strengths	📖	· Problem Solving	· Cross-Team Collaboration	· Reliable					
		· Technical Documentation	· Hard Working						
Coding	📖	· C++	· Python	· Bash	· C	· LaTeX	· Java		
Software	📖	· Linux/Ubuntu	· GitHub	· Docker	· ROS/ROS2				
		· Hyperstack	· AWS EC2						
Knowledge	📖	· Agile	· REST API	· Test-driven Development	· POSIX				
		· Object Oriented Programming	· Data Structures	· SQL	· DevOps				