

# HTWK Robots Team Description Paper 2023

HTWK Robots

HTWK Leipzig  
Karl-Liebknecht-Straße 132  
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<https://htwk.bot/>

## 1 Team Information

Team Name	HTWK Robots
Team Leaders	Rico Tilgner
Team Contact Email Address	<a href="mailto:naohtwk@googlemail.com">naohtwk@googlemail.com</a>
Team Website URL	<a href="https://htwk.bot/">https://htwk.bot/</a>
Country of Origin	Germany

### 1.1 University Affiliations of the Team

All team members are affiliated with HTWK Leipzig (Leipzig University of Applied Sciences).

HTWK Leipzig  
Karl-Liebknecht-Straße 132  
04277 Leipzig, Germany

### 1.2 Team Members

- Rico Tilgner
- Thomas Reinhardt
- Stefan Seering
- Tobias Kalbitz
- Michael Wunsch
- Florian Mewes
- Tobias Jagla
- Stephan Bischoff
- Marvin Jenkel
- Felix Loos
- Eric Behrendt
- Max Polter
- Lea Kunz

### 1.3 Supervising Professors

- Jens Wagner
- Oliver Crönertz

## 2 Code Usage

Since 2021 we adopted the base image build process published by team Nao Devils.

We don't anticipate to use any code from other teams in 2023.

## 3 Own Contribution

We intend to use our novel whistle detection based on CNN at RoboCup 2023. The detection was recreated from ground up and does not use any prior work from the 2018 publication by HTWK Robots. The current state of development that was used at RoboCup 2022 was published at <https://github.com/NaoHTWK/WhistleDetection>.

## 4 Past History

Team HTWK Robots plans to compete in RoboCup 2023 and GORE 2023.

**Table 1.** German Open 2019 matches.

Score	Opponent
4 : 1	rUNSWift
4 : 0	HULKs
6 : 0	NomadZ
3 : 1	HULKs
3 : 4	B-Human

**Table 2.** RoboCup 2019 matches.

Score	Opponent
6 : 0	TJArk
10 : 0	Naova
5 : 0	Berlin United
5 : 0	NomadZ
10 : 0	UT Austin Villa
8 : 0	Nao Devils
1 : 2	B-Human

## 5 Impact

Team HTWK Robots is involved in several activities with the goal of connecting our university with local school graduates. Schoolchildren are invited to visit and get to know our robots. We support the Roberta initiative [1] for improved MINT education. Exhibition matches are held at events like Lange Nacht der Computerspiele [2] and modell-hobby-spiel [3] to wake interest for RoboCup in young visitors.

**Table 3.** RoboCup 2021 (1vs1).

Score	Opponent
10.5 : 5	NomadZ
15 : 10	Berlin United
13.5 : 2	UT Austin Villa
12 : 9	SPQR Team
19.5 : 18	B-Human

**Table 4.** GORE 2022 matches.

Score	Opponent
4 : 0	Nao Devils
5 : 2	RoboEireann
0 : 3	HTWK Robots
6 : 0	SPQR Team
10 : 0	R-ZWEI KICKERS
10 : 0	R-ZWEI KICKERS
5 : 2	RoboEireann
0 : 4	HTWK Robots

**Table 5.** RoboCup 2022 matches.

Score	Opponent
3 : 0	rUNSWift
7 : 0	Bembelbots
7 : 0	SABANA Herons
0 : 8	B-Human
8 : 0	Bembelbots
4 : 0	Nao Devils
0 : 4	B-Human

## 6 Other

In the past, we competed under the name Nao-Team HTWK in RoboCup competitions.

## References

1. <https://www.roberta-home.de/>
2. <https://computerspielenacht.htwk-leipzig.de/computerspielenacht-start>
3. <https://www.instagram.com/reel/CjsEJCroUQM/?igshid=YmMyMTA2M2Y%3D>