FESTO

Hackathon

Welcome @ Festo

08.05. & 09.05.2025

Agenda Hackathon Experience @Festo

Thursday - 8th May 2025	
09:00	Welcome with Snacks & Drinks
09:20	Introduction + Challenge + Team
10:25	Hackathon Start
11:30	Lunch
12:45	Hacking Work Session
16:45	Official Ending + Pizza + Networking (Voluntarily Hacking Work Session)
19:00	End

Friday - 9th May 2025	
09:00	Welcome + HR Info + VR Input
10:00	Hacking Work Session
11:30	Lunch
13:15	Pitches
14:30	Break
14:45	Award Ceremony
15:00	End

Hackathon | Team

Sina Pallasch

Employer Branding/ HR-Marketing

Michelle Zovko

Intern Employer Branding/ HR-Marketing

Arsema Kaffel

Working Student Recruiting

Enhui Chen

Motion Control and CODESYS Library Development

Konstantin Renz

GUI Conception and Implementation Coordination Team India

Robin Dannenhauer

Full Stack Development

Customer Solutions


We are software @ Festo

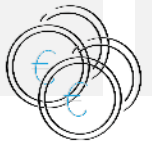
Festo at a glance

Facts, Figures and Data

Festo is a global player and an independent family-owned company, founded in 1925.

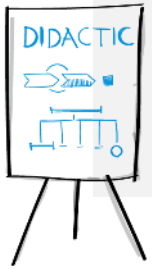
~20.600
Employees worldwide

3,45B.
Euro revenue



61
Companies in different countries

>250
Locations worldwide

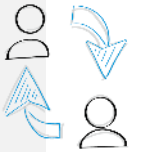


>56.000
Didactic customers

>300.000
Industrial customers in 176 countries

8,8%
R+D Quote

96%
Net Promoter Score



→ For more information about Festo as an employer, click here.

What makes us special

- New Work
- Agile Methods
- Personal Development
- Flexible Working Time Models
- Fitness and Company Sport Groups
- Canteen and Meal Subsidy

AIr-Hockey Rival

- Develop the most **efficient control algorithm** to win the game.
- Defend, attack, and **react with lightning speed**.
- Defeat all **opposing teams** and show what you're made of.
- Use artificial intelligence to operate **unpredictably**.

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What‘s Available

- Air-hockey table
- Handling system moves the pusher
- Camera for playing field monitoring
- Hardware ready – focus on software

Table Access

3 Air-hockey tables available					
Day	Von	Bis	Table 1	Table 2	Table 3
Thursday	12:15	12:45	Vorbereitung	Vorbereitung	Vorbereitung
	12:45	13:25	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	13:25	14:05	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
	14:05	14:45	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	14:45	15:25	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
	15:25	16:05	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	16:05	**16:45**	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
	17:00	17:30	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	17:30	18:00	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
	18:00	18:30	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	18:30	**19:00**	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
Friday	**9:50**	10:30	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	10:30	11:10	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes
	11:10	11:50	Ambitious Bionic Ants	Awesome Aquajellies	Bouncing Bionic Kangaroos
	11:50	**12:30**	Brilliant BionicOpters	Epic eMotionButterflies	Fearless Bionic Flying Foxes

- 6 teams
- 3 air-hockey tables
- Predefined **time slots** per team
- Independent **switching** possible

Your Task

- Fast **image processing** through live analysis of camera data
- Development of an efficient **game algorithm**
- Direct **control** of the **handling system** for smooth game flow

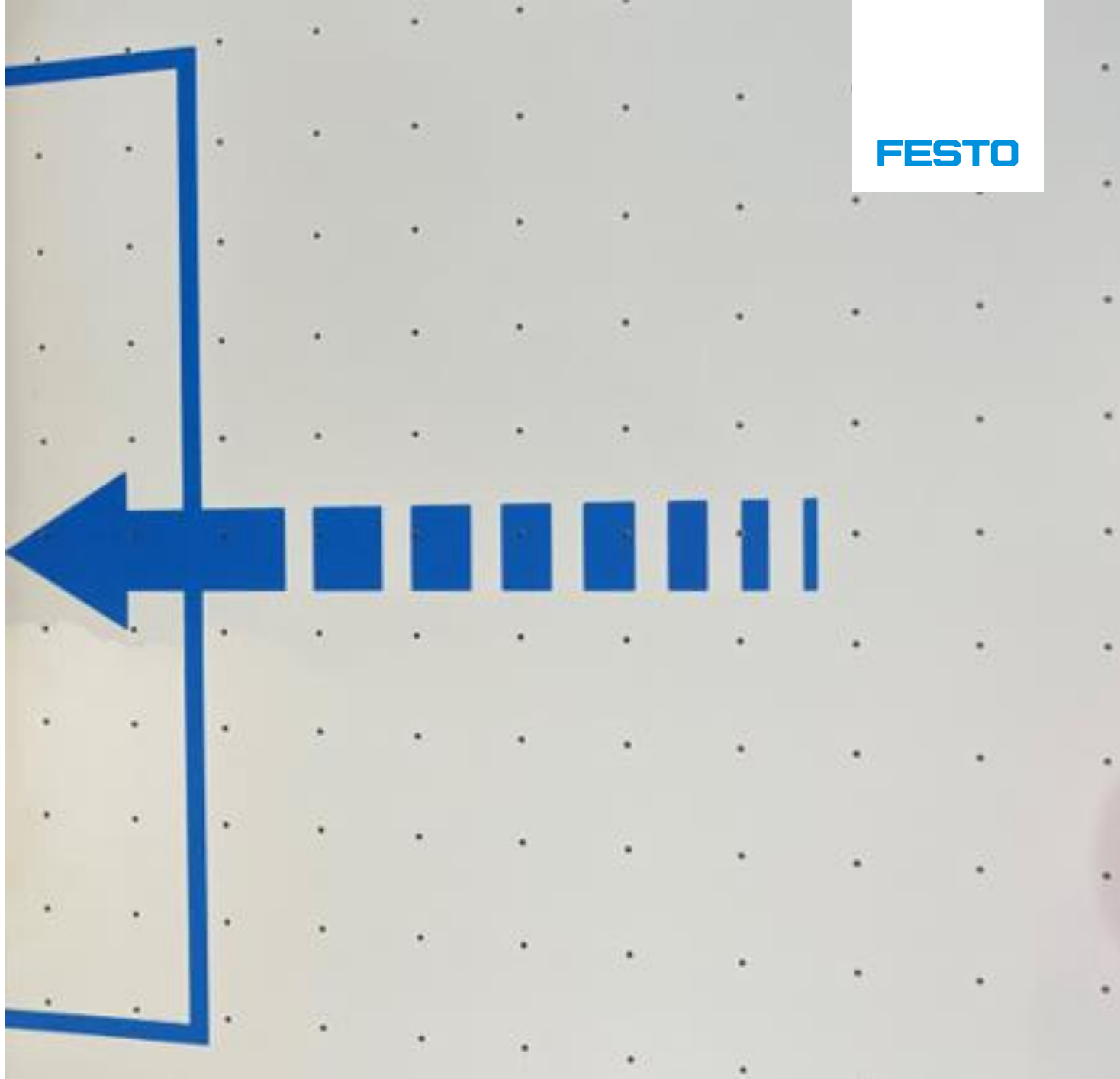

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Image processing

- Track the puck through **computer vision** using the OpenCV library.
- Calculate the **position and direction** of the puck and the opponent's pusher in real time.

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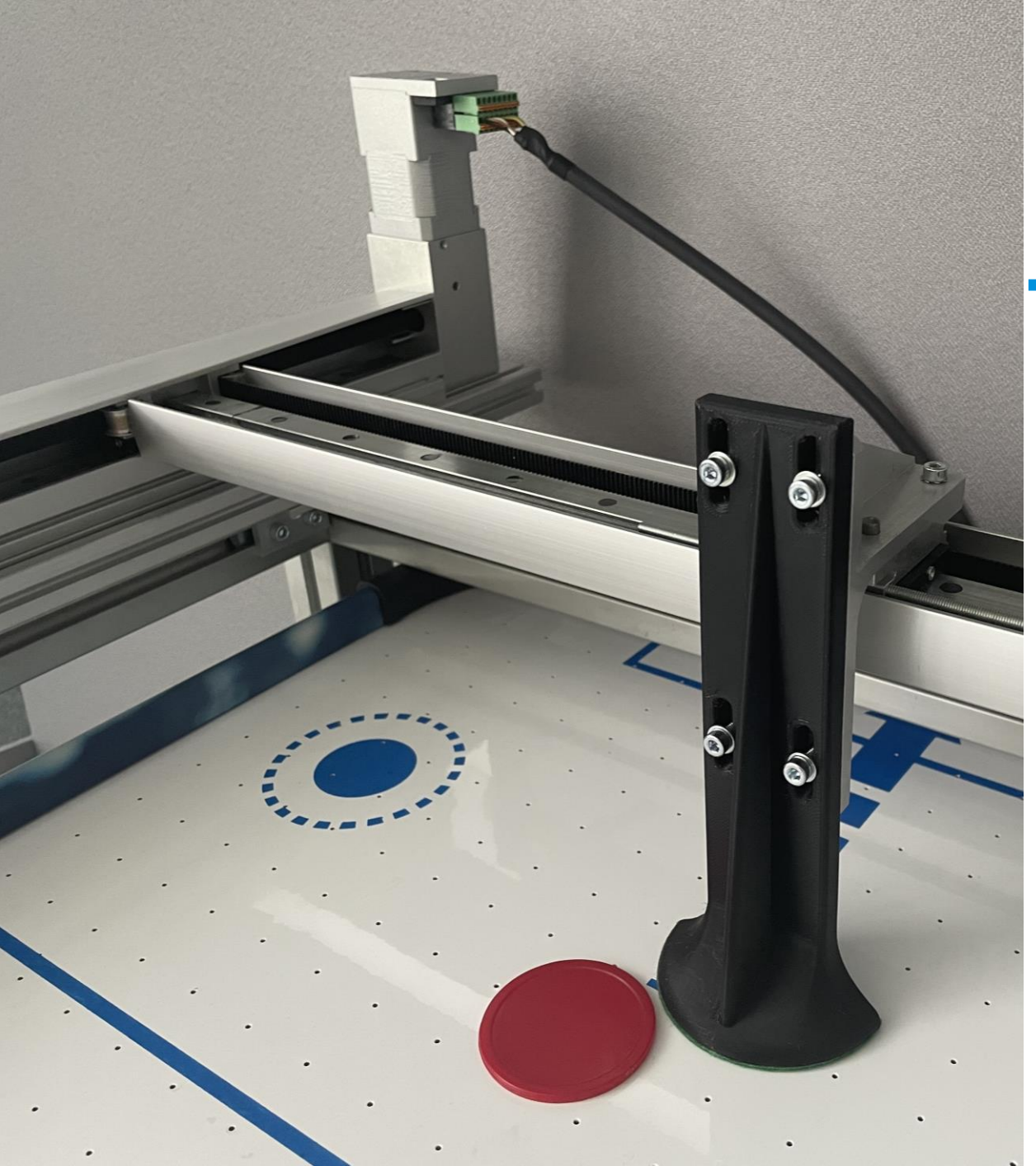
Algorithmics

- Develop a clever **game strategy** to control the handling system.
- Find the best balance between **defense and offense**.
- Optimize reaction time to **control the puck precisely**.



Control

- Convert your calculations into appropriate **control commands** for the handling system.
- Ensure that the movements are **smooth and efficient**.

Evaluation

- **Behaviour & Algorithm** 50%
  - Defense and Offense
  - Durability
  - Ressource Utilization
  - Intelligence
- **Visualization** 20%
  - Usability
  - Extent
- **Code Quality** 20%
  - Modularity
  - Readability
- **Pitch Performance** 10%
  - Entertainment

How to Start…

- Carefully read the **interface specification** provided via the QR code
- Check out the **example video** provided via the QR code
  - Different hardware setups
  - Recording own videos required
- Discuss work packages in your team

Any questions?

Let‘s Hack !

...or are there any questions left?