



AI Drone Pilot

- An European Master Team Project in Cooperation with Babeş-Bolyai University Cluj

Supervisor: Lars Hoffmann and Noah Metzger

Reviewer: Prof. Dr. Heiner Stuckenschmidt

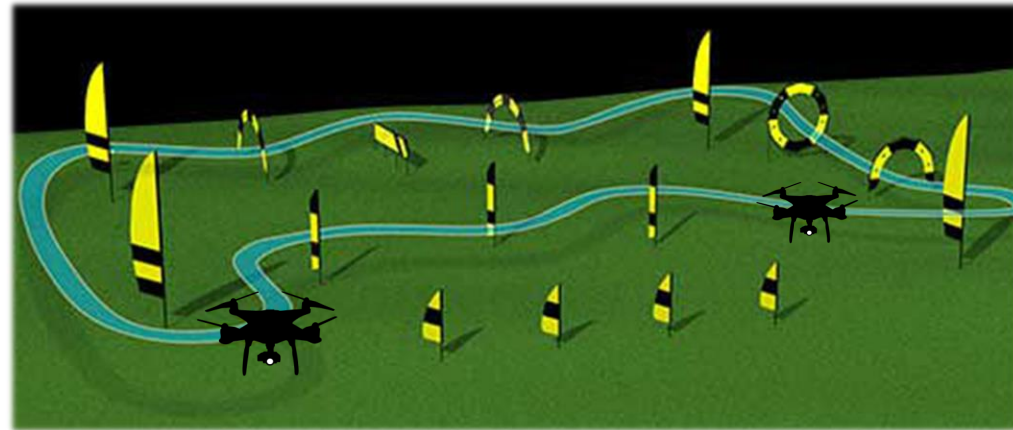
Goal



Gain hands-on experience with drone software systems in combination with current AI concepts in a playful environment

Task

- Develop a flight control system
- Automatically detect and avoid obstacles to safely maneuver through different parcours
- Quality levels for evaluation:



Crashed



Safe stop/hovering



Finished

Technical Environment - Demonstration

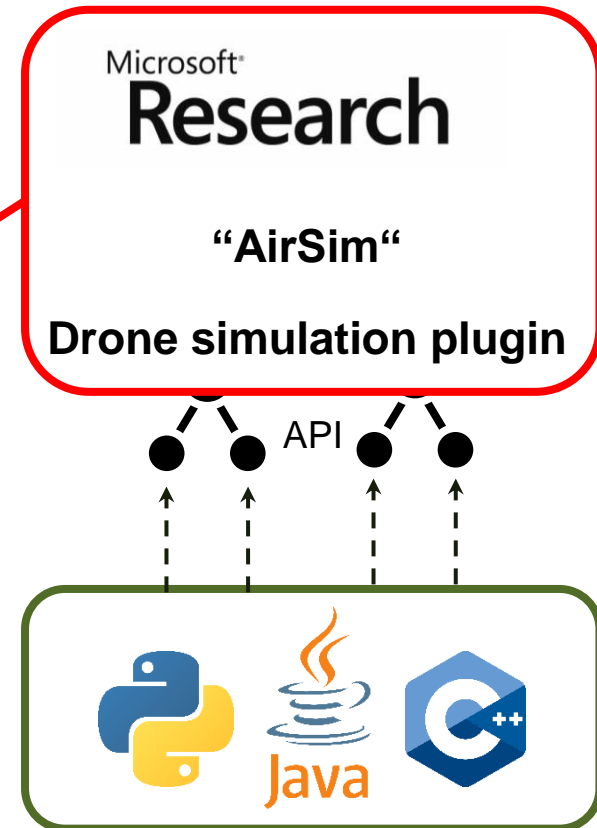


Video source: <https://www.youtube.com/watch?v=-WfTr1-OBGQ&feature=youtu.be>

Technical Environment - Overview

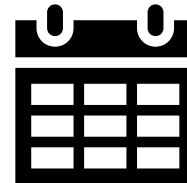


Environment simulation



Organization

- M.Sc. Business Informatics or Data Science
- Language: German/English
- Start: Monday 28.09.2020
- Duration: 6 months (1 semester)
- Team members: 4 Mannheim students and 4 Cluj students



Internal Competition:

- Split into 2 teams with 4 students each (Mannheim and Cluj mixed)
- Same evaluation parcours(s) for everyone
- Best drone AI wins (according to quality criteria)

Requirements

- Programming skills mandatory (e.g., Python)
- Experience in version control systems (e.g., Git)
- Beneficial: Know-How in Machine Learning and Computer Vision
- Desirable soft-skills:
 - Open-minded character
 - Outstanding teamwork
 - Great communication skills
- Last but not least: High motivation and interest in the topic!



Thank you for your attention!



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Interested? References for more information

- Unreal Engine

- Website: <https://www.unrealengine.com/en-US/>



- Microsoft AirSim

- GitHub: <https://github.com/microsoft/AirSim>
- Doku: <https://microsoft.github.io/AirSim/>
- Demo Video: <https://www.youtube.com/watch?v=-WfTr1-OBGQ&feature=youtu.be>



- Others:

- Dronecode: <https://www.dronecode.org/projects/>

