



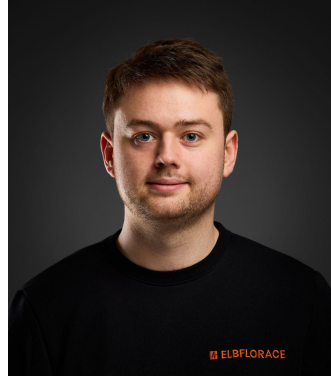
# You wouldn't vibe code a car: LLM usage in Formula Student

ARWo 2026

Alexander Phieler

[Google slides link \(for videos\)](#)

# About me



- Alexander Phieler  
([alexander.phielер@elbflorace.de](mailto:alexander.phielер@elbflorace.de))  
<https://www.linkedin.com/in/alexander-phieler/>
- TU Dresden Diplom Informationssystemtechnik
- EFR13 (21): Head of AS
- EFR14 (22): DV Controls, (...)
- EFR15 (23): SLAM, (...)
- EFR16 (24): PacSim, (...)
- EFR17 (25): Camera perception, (...)
- EFR18 (26): ~~Hopefully Alumnus~~, Some stuff
- EFR19 (27): Hopefully Graduated



<https://www.linkedin.com/in/alexander-phieler/>

A man with a long, full white beard and long hair is wearing large, gold-colored headphones. He is looking down at a computer screen, which is mostly black. He is wearing a dark-colored shirt. The background shows a room with a white door and a wall.

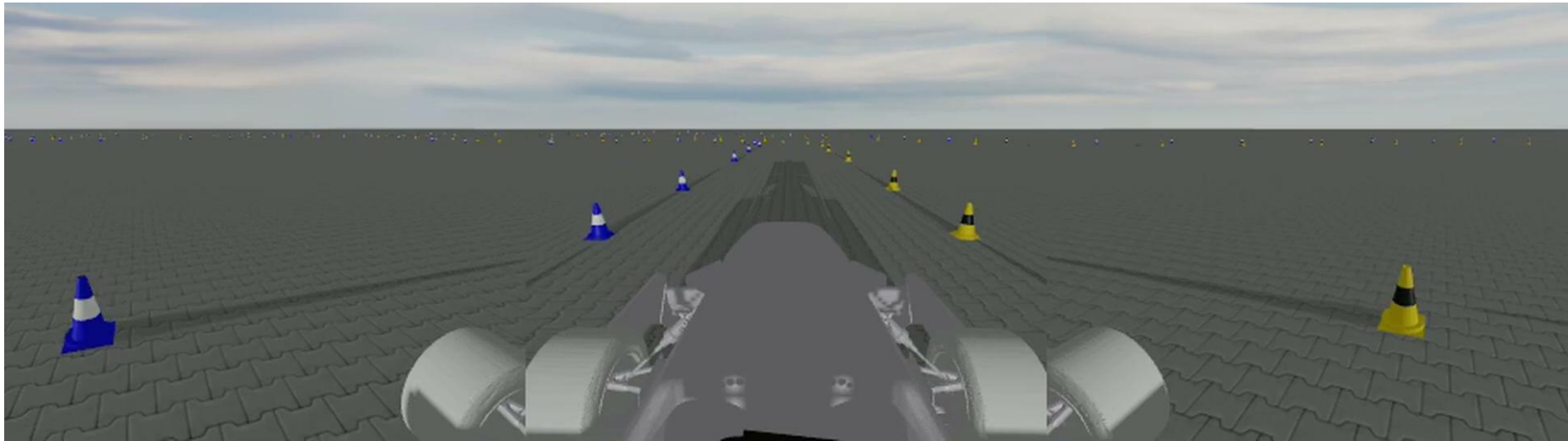
**OK COPILOT**

**WRITE A CAMERA SIMULATOR FOR  
FORMULA STUDENT DRIVERLESS, MAKE NO MISTAKES**

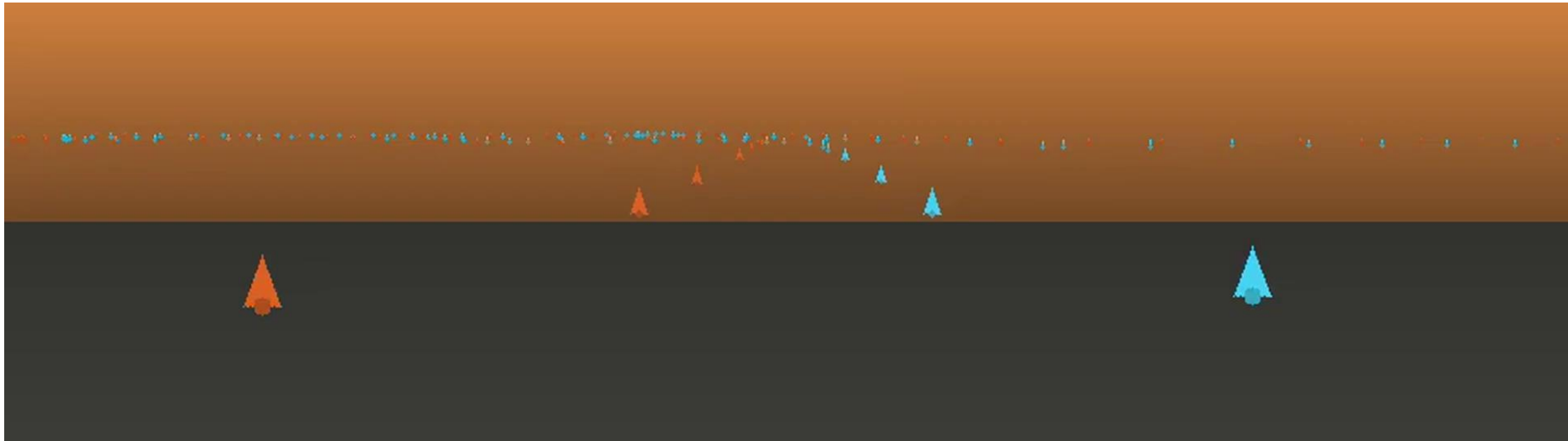


- Port renderer I used for my RL project (Pixels in, Controls out: How to do End-To-End control using neural networks) from Python+Panda3d to C++ and raw OpenGL
- My knowledge:
  - Never visited a computer graphics course
  - Never implemented a computer graphics project
  - Just some CG basics, but couldn't even write the most basic shader
- Setup used:
  - Github Copilot in VS Code (On student plan)
  - GPT 5.3 Codex
  - Gemini 3.1 Pro (Backup because I got rate limited)

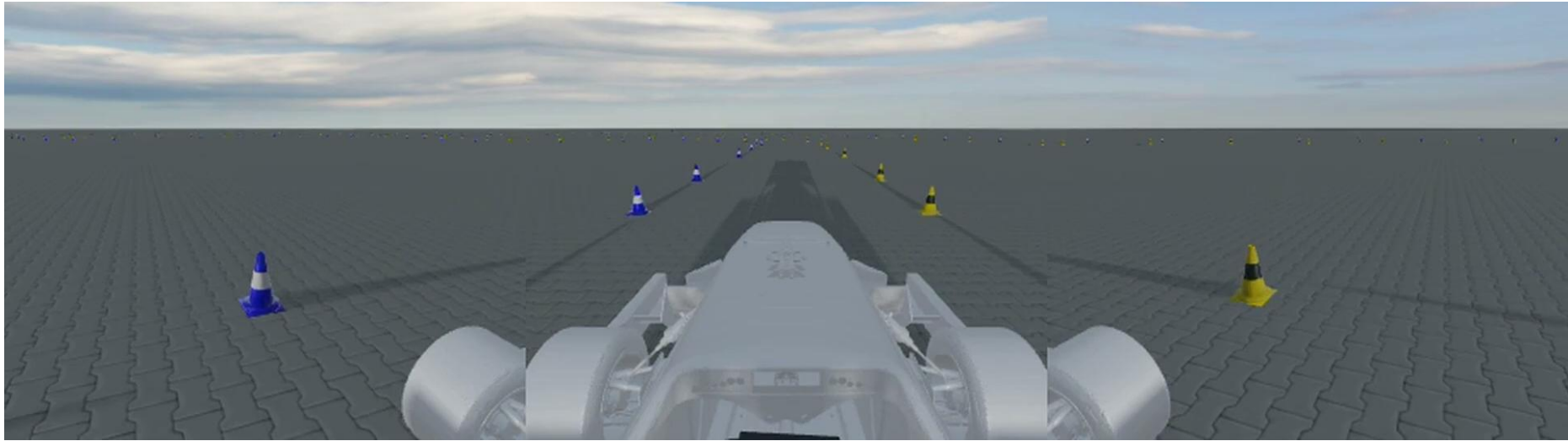
# Reference



Work in progress



Final (Soon in PacSim)





- First I was very sceptical about LLM usage, now (since  $\sim\frac{1}{2}$  year) I increasingly use it as a replacement for Google and let it write all kind of boilerplate (or more) code.
- Good tool for research or “second opinion”. Don’t have a proper procedure to check correctness of claims
- In hands of good developer: Productivity multiplier
- Allows people who shouldn’t write code to write code
- Our introduction task (simple ros2 coding with turtlesim) basically turned useless because it can easily be vibecoded. Recent submission show that it is also done (signs like emojis in comments)



- Where do you use it?
- Do you have any policies for AI usage?
- Positive / Negative experiences?