Introduction to Robot Simulation and Intelligence

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1 History of Scaled Foundations team

- 2017: First high-fidelity AI and Robotics Sim 700k downloads
- 2021: Generative AI of sensors
- 2022: Foundation Models in Robotics, Percetion and Action models

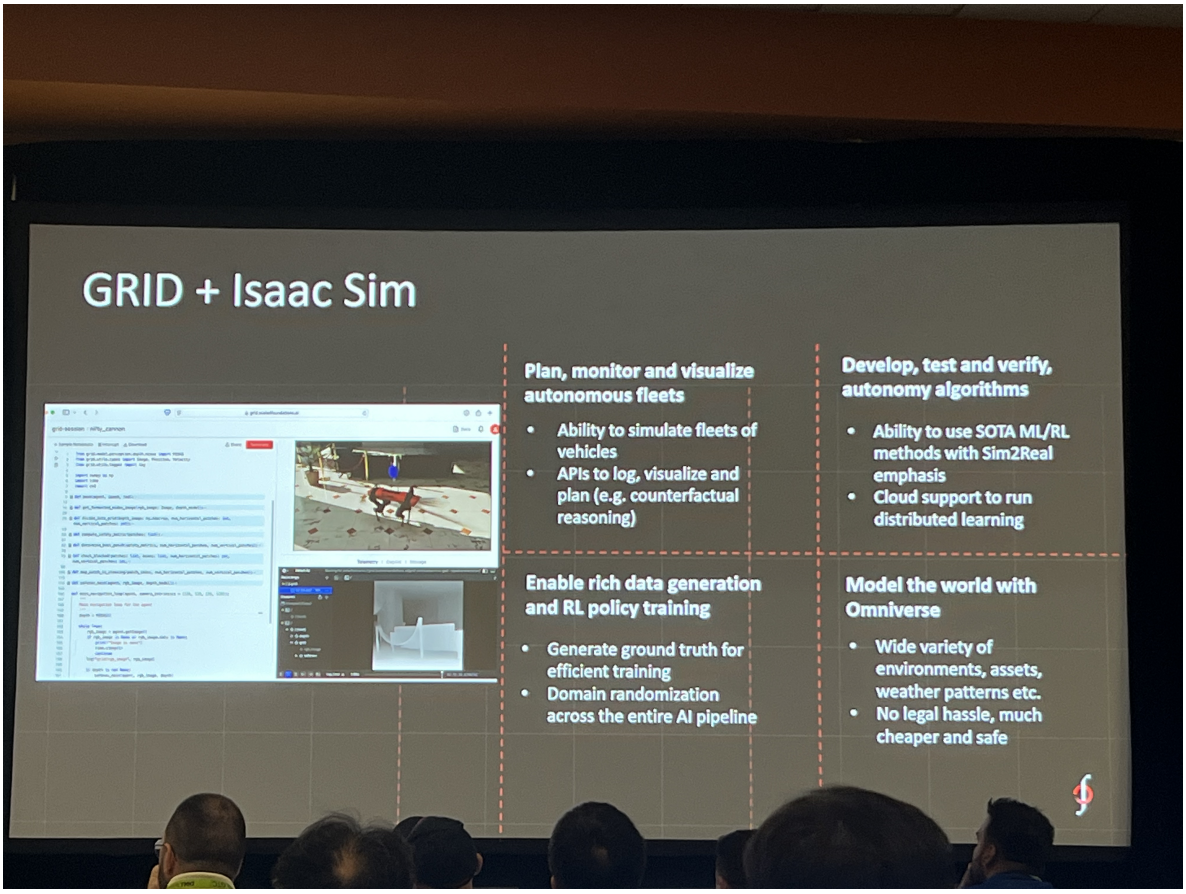
Autonomous Systems / Robotics in Future There is a fundamental shift due to deep machine learning (perception, planning,control, end-to-end) and cloud computing (simulation, large-scale compute, data).

1.1 Important Lessons from AirSim

1. 'PyTorch' moment for robotics needs to come before the 'ChatGPT moment for robotics' : it is very hard now to apply a model from hugging-face to our robot!
2. Most AI workloads on robots can primarily be sovled by deep learning
3. Existing robotic tools are suboptimal for deep ML
4. Robotic foundation mosaics + agentic architectures are more liekly to deliver than monolithic robot foundation model

1.2 GRID + Isaac Sim

- Plan, monitor and visualize autonomous fleets
- Develop, test and verify, autonomy algorithms
- Enable rich data generation and RL policy training
- Model the world with Omniverse



Grid Platform is like an IDE for building and simulating robots. OpenGrid is a browser-based IDE combining simulation and foundation models with development and deployment layers.

2 Hands-on Experience on grid.scaledfoundations.ai