Virtual Environments, Simulations of Forest Fires and Floods

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Artificial Intelligence & Information Analysis Lab

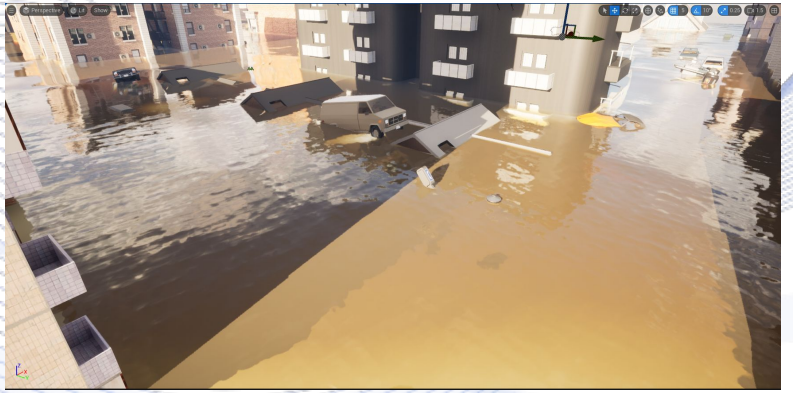
Introduction

- Simulations of natural disaster
- Virtual Environment creation
- UAVs for aerial video
- Mission planning

Simulations of natural disasters

- Modeling the spread of fire or the displacement of objects in a flood
- Improved realism

Fire in the middle of the forest



Displaced car in the flood

Virtual environment Creation

- Completely customizable shape and size
- We can use any type of 3D model - Different props
- Easy variation of lighting conditions and other effects

Image of the whole forest in editor

Top-Down view of the flooded city

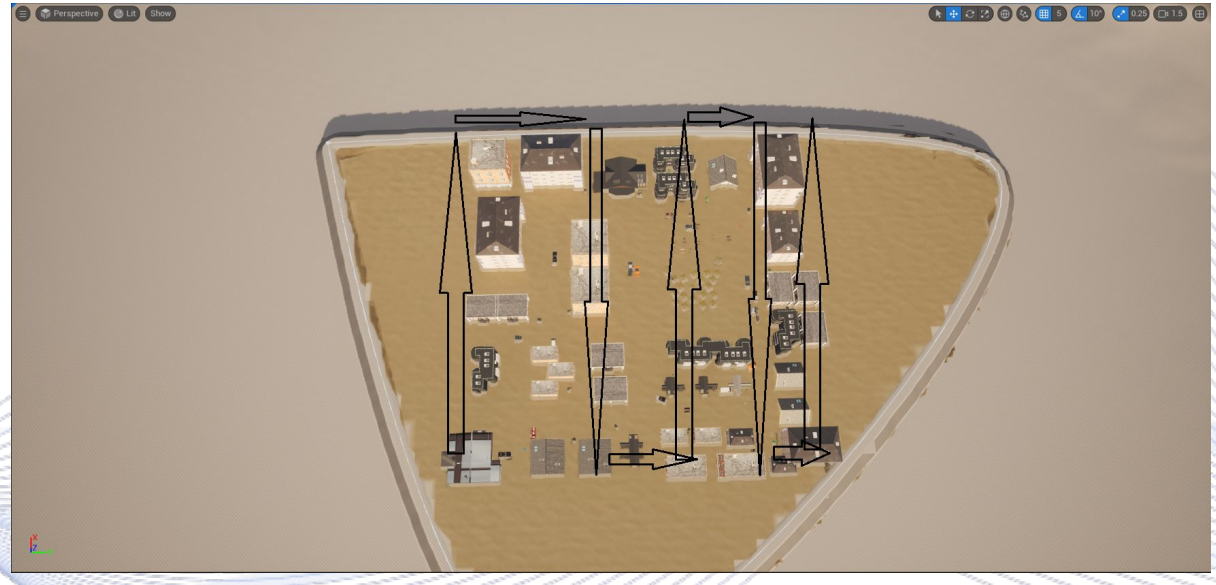
UAVs for aerial video

- Easy way of realistic video capturing
- Flexibility in modes and Functionalities

Drone on top of the starting mat

Mission planning

- Full user programmable movement
- Easy usage with Python API



Top-Down view of flooded city with mission path marked

Bibliography

- **AirSim: High-Fidelity Visual and Physical Simulation for Autonomous Vehicles,**
  Shital Shah, Debadeepta Dey, Chris Lovett, Ashish Kapoor

Q & A

Thank you very much for your time!

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