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Nombre del Grupo de investigación asociado a AIHUB:

Instituto de Investigación en Inteligencia Artificial (IIIA-CSIC)

Ubicación del centro donde se disfrutará la beca:

Instituto de Investigación en Inteligencia Artificial (IIIA-CSIC)

Campus Universitat Autònoma de Barcelona

08193 Bellaterra, Catalonia, Spain

Título del proyecto:

Agent-based simulations and immersive technologies for fire department training

Descripción del proyecto (máximo dos párrafos)

The use of simulations in virtual environments for the training of emergency forces has proven to be very useful to improve these units' operational level when faced with a real problem. However, the use of these generic tools has its limitations. One of them is that they do not allow multilevel simulations in which low-ranking units located in the focus of the emergency, middle managers, and high-level managers can participate simultaneously in a single scenario.

A scenario of this complexity requires a set of federated simulations that communicate with each other, providing a different level of granularity according to the participant's tasks and using different interfaces to interact with him/her (CAVE, Virtual Reality, Augmented Reality, standard screens...). During the grant, the candidate will work on how to adapt the information that flows from one simulation to another simulation that is at a different level of abstraction (adding/removing detail) and developing internal agent models for different actors in the simulations (firefighters, fire, smoke, vehicles, etc.). Knowledge of Python and the Unity and/or Unreal Engine video game development environments will be highly valued.