
Ant-Based Modeling: Agent-Based City Simulation with Ants

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Abstract

Ant-Based Modeling explores the possibility of implementing agent-based modeling with living ants and external stimuli such as electromagnetic radiations, magnetic fields, and electric fields. In an experiment with fire ants, we discovered that ultraviolet and infrared lights can affect their behavior in the form of attraction and dispersion towards the light, respectively. The video highlights some of the LEGO-made landscapes we use in our explorations and how the behavior of ants can be influenced by ultraviolet light to achieve certain purposes such as exploring a new area or dragging a ping pong ball to a specific location. These experiments have allowed us to learn more about ants and have inspired us to explore novel forms of human-ant interaction.

Author Keywords

Ant; Anterface; Human-Ant Interaction; Collective Intelligence; Agent-Based Modeling; City Simulation.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

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