Projectes

Ofertes de Projectes

Oferta: Development of a Hybrid Metaheuristic for Ride-Sharing Problem

Data de creació	13/06/2025
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Titulació	MAI
Modalitat	A: Projecte realitzat a la UPC
Especialitat	• Sistemes Multiagents • Ciència de les Dades i Intel·ligència Computacional • Modelat, Raonament i Solució de Problemes
Departament	CS
Descripcio	*Development of a Hybrid Meta-heuristic to address the Dynamic Ride-Sharing Problem, combining Meta-heuristic optimization with Agent-based Simulation.* The Ride-Sharing Problem (RSP) seeks to efficiently match travelers with similar itineraries and schedules on short notice, yielding substantial social and environmental benefits by reducing the number of cars used for personal travel and optimizing the use of available seat capacity in urban areas. The static version of RSP is inadequate for real-world applications, as it does not account for the inevitable delays caused by traffic, cancellations, or new services. Therefore, a dynamic version is necessary to accommodate these circumstances. This TFM proposes the development of a Hybrid Metaheuristic to address the Dynamic RSP, combining Metaheuristic optimization with Agent-based simulation. This optimization method must include the following features: Adaptation to traffic conditions. Integration of new services en route. Management of route cancellations.
Requisits mínims	good programming skills in python