

الجمهورية الجزائرية الديمقراطية الشعبية
République Algérienne Démocratique et Populaire
وزارة التعليم العالي و البحث العلمي
Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
المدرسة العليا للإعلام الآلي 8 ماي 1945
École Supérieure en Informatique
8 Mai 1945 Sidi Bel Abbès



MÉMOIRE

En vue de l'obtention du diplôme de **ingénieur**
Filière: **Informatique**
Spécialité: **Système d'information et Web (SIW)**

Thème

INTEGRATING CARPOOLING SOLUTION AND OPTIMIZED
TIMETABLING IN HIGHER EDUCATION

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Soutenu le : **07 Octobre 2024** devant le jury composé de :

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Année Universitaire : 2023-2024

ABSTRACT

This report examines the integration of sustainable mobility solutions and optimized academic scheduling within higher education. It presents the MonTrajetVert initiative, which promotes eco-friendly transportation for students through carpooling, thereby reducing environmental impact and enhancing accessibility. Additionally, a timetabling model is developed to optimize resource allocation while accommodating student and faculty preferences.

Employing data analysis and heuristic optimization, the study addresses the challenges of sustainable mobility and effective scheduling. The findings indicate that the proposed carpooling heuristic can significantly reduce travel distances, while the timetabling model effectively resolves scheduling conflicts and maximizes carpool activations.

This work contributes to the ongoing efforts in higher education to adopt sustainable practices and improve operational efficiency, offering practical solutions that align with contemporary environmental goals.