

الجزائرية الديمقراطية الشعبية الجمهورية  
République Algérienne Démocratique et Populaire  
وزارة التعليم العالي والبحث العلمي  
الجامعة المفتوحة  
*Ministère de l'Enseignement Supérieur et de la Recherche Scientifique*  
للإعلام الآلي - 08 ماي 1945 - بسيدي بلعباس  
Ecole Supérieure en Informatique  
-08 Mai 1945- Sidi Bel Abbes



**Mémoire de Fin d'étude**  
Pour l'obtention du diplôme de **Master**  
Filière : **Informatique**  
Spécialité : **Ingénierie des Systèmes Informatiques (ISI)**

## Thème

---

### **Comparative Analysis of Machine Learning Algorithm Performance in Smart Irrigation**

---

Présenté par :

- M Dik Ahmed Yacine

Soutenu le : 20/12/2023

Devant le jury composé de :

- |                                |             |
|--------------------------------|-------------|
| • M BENSENANE                  | Président   |
| • M RAHMOUN Abdellatif         | Encadreur   |
| • M KAZI TANI Mohammed Yassine | Examinateur |

*Année Universitaire: 2022 / 2023*

# Abstract

*Year by year the technologies are developing in most domains and fields to have lower product cost, lower process time and more efficiency. In this thesis we will show how internet of things has improved smart farming and how we merged IOT in water irrigation systems to have what we called precision irrigation or smart irrigation, and we will talk about Machine Learning one of decision-making techniques in smart irrigation. ML help to have best decision in what time and how much amount of water the soil and plant need and for that we use machine learning algorithms such as KNN, SVM, naïve bayes etc. This thesis shows 19 articles each of them gives the best performance algorithm for different smart irrigation field like estimating evapotranspiration, irrigation time, amount of water, water index to conclude the best algorithm*