1.1 Background

Floods are among the most devastating natural disasters, causing signiﬁcant damage to life, property, and the environment.

Predicting ﬂoods accurately and effectively is critical for mitigating their impacts.

With advancements in technology and data science, the development of ﬂood prediction systems has gained considerable attention.

By leveraging geographic information systems (GIS), hydrological models, and machine learning techniques, we can now enhance ﬂood forecasting and preparedness.