

# Design and Development of a Highly Manoeuvrable and Terrain Adaptable Amphibian Robot

**Arnab Kumar Barman**

*Gauhati University Institute of Science and Technology  
E-mail: [arnabmania94@gmail.com](mailto:arnabmania94@gmail.com)*

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**Abstract**—*The mindless urbanization and improper drainage system has led to flood inundation and water logging in metropolitan cities like Guwahati. After a rainfall, the city drains get clogged with solid wastes which leads to artificial floods. Although the municipal corporations employs people to clean the drains manually, but it is hazardous and inappropriate for humans to perform such work. This paper describes a method to solve the drainage clogging system with the help of robots. An amphibian robot is designed to collect the litters in small scale and dump on the banks of the river or drain. The robot is highly versatile and can adapt to varying terrains with the help of specially designed wheels. The robot is also designed in such a way that smooth transition from water to land takes place.*