



Republic of the Philippines  
**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES**  
COLLEGE OF COMPUTER AND INFORMATION SCIENCES  
BACHELOR OF SCIENCE IN COMPUTER SCIENCE

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April 24, 2023

**PAGASA Weather and Hydromet Division,**  
PAGASA Science Garden Complex,  
BIR Road, Brgy. Central,  
Quezon City, Metro Manila 1100

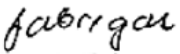
Dear Madam/Sir,

Good day! Nathanael Almazan, Paolo Morato, Jordan Garcia, and Shaina Laman, 3rd-year section 4 students of Bachelor of Science in Computer Science (BSCS), proposed a thesis study entitled "*RiverCast: Forecasting Marikina River Level using Auto-Regressive Transformer with Kernel PCA and Euclidean Kernel*". The study focuses on the factors affecting Barangay Nangka, Tumana, and Sto. Niño flood incidents in Marikina City to develop flood forecasting software powered by artificial intelligence. Part of the research study is to train the software to identify flood hazards in advance, the researchers would like to request hourly historical data on the Marikina River water level from the warning posts at Manalo Bridge, Marcos Highway, Sto. Nino, Tumana Bridge, San Mateo, Montalban, and Rodriguez Station. In addition, the researchers would also like to request historical rainfall, temperature, humidity, and wind speed data from the weather posts at Sitio Wawa, San Mateo, Nangka, and Marikina Youth Camp. The researchers hope to obtain historical data from January 2012 to March 2023.

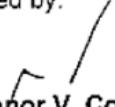
The proposed technology aims to create an intelligent tool that can alert citizens about an impending flood hours before it happens and guide citizens to safety once a flood is detected. We would greatly appreciate your assistance in completing this technology. You may contact the research team through email at [nathanaelaalmazan@iskolarngbayan.pup.edu.ph](mailto:nathanaelaalmazan@iskolarngbayan.pup.edu.ph).

Hoping for your positive and immediate response. Thank you and God bless.

Sincerely Yours,

  
**Aleta C. Fabregas, DIT**  
Thesis Adviser

Recommended by:

  
**Benilda Eleonor V. Comendador, DIT**  
PUP CCIS Dean