

Dear Sir/Madam,

I am excited to submit this application for the position of Computational Flood Modeler at the Pacific Northwest National Laboratory. I believe my academic training, acquired skills and professional experiences make me an excellent candidate. I would like to briefly expand on my experiences and expertise, and my interest in this position.

Currently, I am working as a ORISE research participant for the Environmental Protection Agency. Here, I am engaged in a number of different projects. I am developing a tool which simulates overland flow of crude oil and analyzes the contamination vulnerability of surface and subsurface water resources in the vicinity of spill location, ultimately enabling better management of the water resources in spill events. I am also analyzing gasoline composition data from across the US using machine learning techniques to predict the level of critical pollutants such as MTBE and BTEX. This will help prepare for the mitigation of groundwater pollution due to leaking underground storage tanks. Focus of my graduate studies has been on modeling different aspects of river systems and environment. Through these projects, I have developed excellent quantitative skills in physically-based modeling, statistical modeling, data analysis, spatial analysis and data visualization. I am well versed in popular tools such GIS, programing and graphical software. I am especially skillful in application of Python programming language and its libraries; Arcpy, numpy, scipy, pandas, matplotlib and seaborn. I am also actively learning recent advances in data science and big data techniques and have undertaken independent projects, specifically in time series analysis and prediction. These projects are available in my GitHub repository. I would be happy to share a sample of my work if required.

My academic background has given me a solid foundation of knowledge on various aspects of water resources. I am a licensed Professional Engineer in the state of Texas. I believe my publications demonstrate skills and abilities of a competent researcher and analyst. I have attended and presented in various conferences which allowed me to hone my communication skills. I am always keen on communicating and coordinating between several individuals and agencies which I believe is essential for developing new perspectives and learning new skills.

This position offers an undeniable opportunity to build on my experience and make important contributions in facing the challenges of extreme flood events. I am confident that my training, skills and experiences have prepared me for this position. Please feel free to contact me anytime. Thank you for your kind consideration. I am looking forward to hearing from you.

Sincerely,

Anish Khanal, Ph.D., P.E.