

## **Postdoctoral Fellow/Data Scientist - Water Quality and Machine Learning**

Are you passionate about leveraging the power of data to address critical environmental challenges? Are you skilled in machine learning and eager to apply your expertise to improve water quality? If so, we have an exciting opportunity for you!

We are seeking a talented and motivated PDF/Data Scientist to join our team. You will play a pivotal role in developing innovative solutions for monitoring and analyzing water quality data. Your work will contribute to the development of intelligent systems and tools that facilitate data-driven decision-making and promote sustainable water management practices. This work is being done in collaboration with various stakeholders across the Great Lakes Basin, including Environment and Climate Change Canada, Conservation Authorities, and NGOs like the DataStream Initiative.

### **Responsibilities:**

- Collaborate with cross-functional teams to identify data requirements and develop strategies for collecting, processing, and analyzing water quality data.
- Utilize machine learning techniques and statistical models to develop predictive models, anomaly detection algorithms, and other data-driven solutions.
- Design and implement data pipelines, ensuring data integrity, quality, and accessibility.
- Develop interactive portals and dashboards for visualizing and presenting data insights to internal and external stakeholders.
- Stay up-to-date with the latest advancements in machine learning and data science, and identify opportunities for their application in the water quality domain.
- Communicate findings and present complex technical concepts to both technical and non-technical audiences effectively.

### **Qualifications:**

- Master's or Ph.D. in Computer Science, Statistics, Environmental Engineering, or a related field.
- Proven experience as a Data Scientist, with a focus on developing and implementing machine learning models and algorithms.
- Strong programming skills in Python or R, along with experience using relevant libraries and frameworks (e.g., TensorFlow, PyTorch, scikit-learn).
- Solid understanding of statistical analysis, data visualization, and exploratory data analysis techniques.
- Familiarity with hydrology and climate datasets as well as water quality monitoring techniques and datasets.
- Experience working with geospatial data and tools (e.g., GIS, remote sensing).
- Experience with database systems and query languages (e.g., SQL) for data extraction and manipulation.

- Proficiency in web development technologies (HTML, CSS, JavaScript) for building interactive portals and dashboards.
- Excellent problem-solving and analytical thinking skills.
- Strong communication and teamwork abilities.

**Preferred Qualifications:**

- Knowledge of cloud platforms (e.g., AWS, Azure, Google Cloud) and big data technologies (e.g., Hadoop, Spark).
- Understanding of environmental regulations and policies related to water quality.

Join our dynamic team and make a meaningful impact on water quality management through data science and machine learning. Together, we can drive positive change and ensure a sustainable future for our water resources.

To apply, please submit your resume, cover letter, and any relevant portfolios or projects demonstrating your expertise in water quality analysis, machine learning, and web development to Laura Klein ([l3klein@uwaterloo.ca](mailto:l3klein@uwaterloo.ca)) and Nandita Basu ([nandita.basu@uwaterloo.ca](mailto:nandita.basu@uwaterloo.ca)). We will start evaluating applications after June 15, 2023. University of Waterloo is an equal opportunity employer. We value diversity and encourage individuals from all backgrounds to apply. Note: Only shortlisted candidates will be contacted.