Harness AI to drive global sustainability

Western

All in.

At Western, we're harnessing the power of machine learning to take on some of the world's most pressing challenges and drive progress toward a healthier, more sustainable and equitable future for all.

Through our Machine Learning for Sustainable Development initiative, we're using artificial intelligence not only to generate better information but also to turn that information into smarter, more timely decisions. Where once detailed forecasts and tailored solutions were too costly, too complex or too slow to be useful, AI now makes it possible to deliver insights directly to the people and communities who need them most.

Our work supports and accelerates efforts that:

- **Strengthen** environmental monitoring, forecasting and resource management.
- **Advance** sustainable approaches to urban planning and agriculture.
- **Promote** poverty reduction, equity, education and improved public health outcomes.

From improving healthcare to optimizing renewable energy and protecting ecosystems, Western researchers are creating AI tools that can guide decision-making at every scale. Farmers can adapt crop choices field by field, urban planners can design safer streets corner by corner and local health providers can deliver personalized care patient by patient. This capacity to act at the micro, grassroots level ensures that innovation delivers practical benefits where they matter most.

By applying cutting-edge technology to real human needs, we're driving progress that balances development with sustainability and ensures innovation delivers meaningful benefits for people and communities in Canada and around the world.

With your support, we can amplify this work, accelerating breakthroughs in research and scaling solutions to build a more sustainable future.

> "At Western, we're advancing research that uses machine learning and AI to help the greater good. We believe these powerful tools must be used responsibly – to tackle real-world problems and drive meaningful change.
>
> Matt Davison, Dean of Science

MACHINE LEARNING FOR A SUSTAINABLE FUTURE

Western researchers are transforming vast amounts of data into real-world solutions that strengthen communities, protect the environment and drive innovation across Canada and beyond.

Tsunami warnings: Western scientists have developed a machine learning model that strengthens early warning systems for coastal communities, helping them respond more effectively while ensuring alerts are both timely and reliable.

Monitoring urban infrastructure: A team of Western engineers and computer scientists have developed technologies to assess damage and degradation of infrastructure in cities. Driven by AI and machine learning, these tools are improving how we monitor and maintain buildings, roads and the environment.

Trustworthy AI: A team of Western mathematicians have developed a new technique that helps open the "black box" of neural networks by showing exactly how they make decisions. Insights gained from this work could help build more transparent, trustworthy artificial intelligence systems, reducing risk in areas like healthcare and sustainable transportation.

Are you all in? Get in touch.

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