

# Your Canadian Advantage in AI



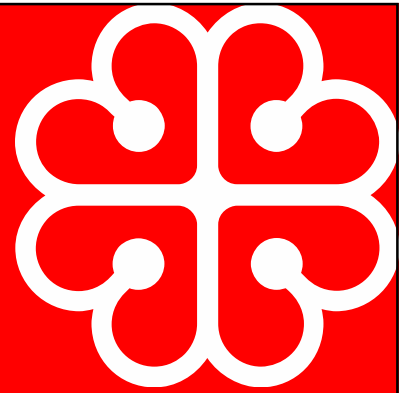
THE AI  
BRAINS  
ARE  
COMING



World Summit **AI**  
09-10 OCT. 2019 | AMSTERDAM

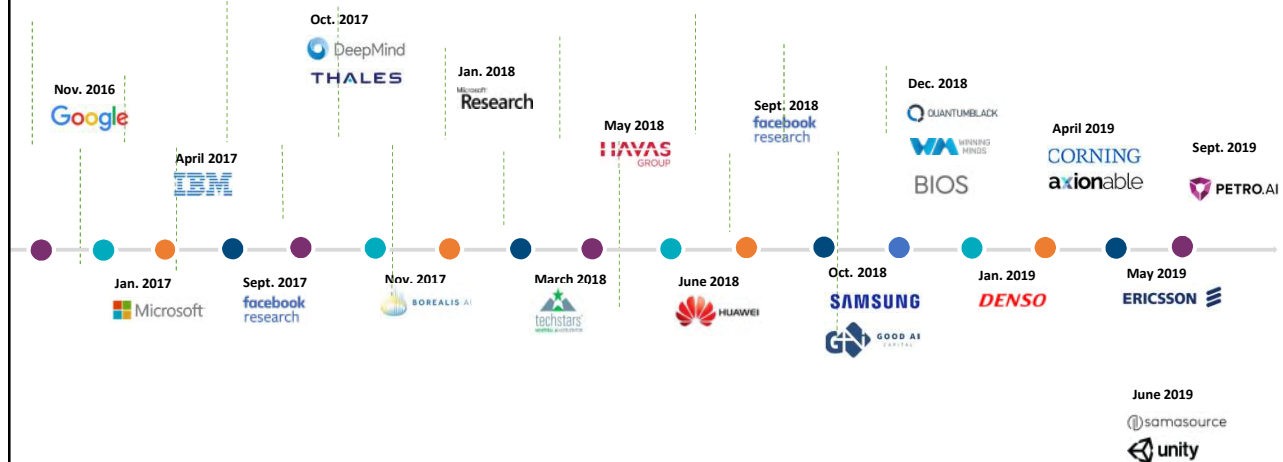


# Valérie Plante Mayor of Montréal



World Summit AI 2019

## A few of the world leaders developing their AI expertise in Montréal





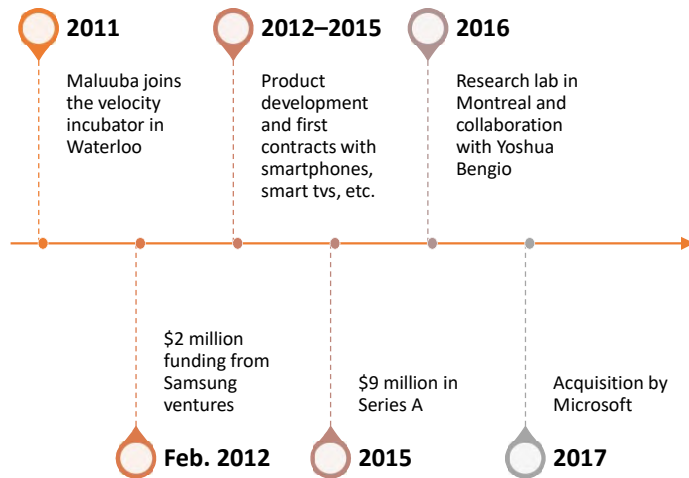
# The Advantages of AI in Canada

Speaker: Layla El Asri  
Research Team Lead, Borealis AI, RBC  
World Summit AI 2019

## My journey in Canada



## The Maluuba success story



## Scientific Advances



**VECTOR INSTITUTE**

**Mila**

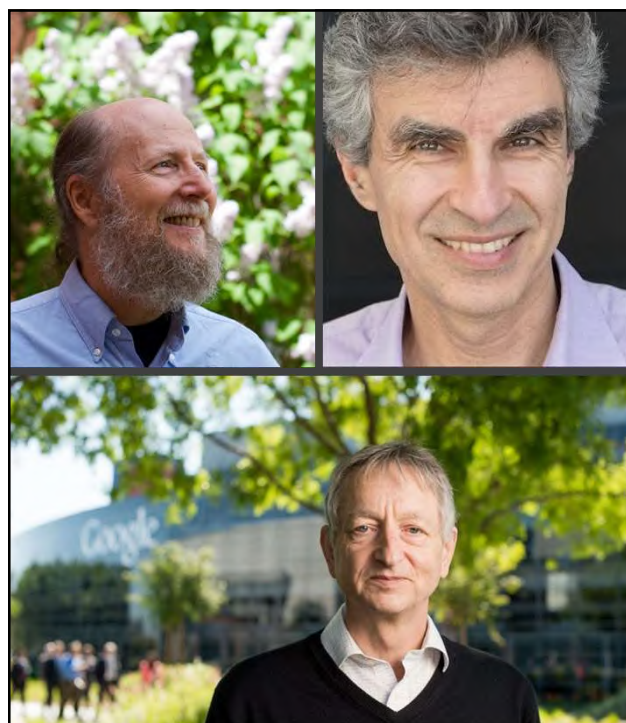
**amii**

## CIFAR and the pan-Canadian AI strategy

Historically, CIFAR (the Canadian Institute for Advanced Research) has been funding AI research through CIFAR chairs

Today, CIFAR is leading the pan-Canadian AI strategy with 46 chairs across Canada and 3 major research institutes

The pan-Canadian strategy will distribute \$125 million over 5 years



## Scientific Leadership

Rich Sutton (amii) is one of the fathers of the field of reinforcement learning and a pioneer of Canada's deep research capacity in data analytics and the foundation for AI

Yoshua Bengio (MILA) and Geoff Hinton (Vector Institute), 'fathers of deep learning', were awarded the 2019 Turing award for their contributions to AI

1994	The Chinook program challenges world checkers champion Marion Tinsley; checkers game is "solved" in 2007.	Chinook program was developed by Dr. Jonathan Schaeffer; currently Dean of Science, UAlberta
1997	IBM's Deep Blue Computer defeats world champion Gary Kasparov.	A key member of that team created Deep Blue was Murray Campbell who received his Bachelor's and Master's degrees from UAlberta.
2016	DeepMind's AlphaGo program beats Go World champion Lee Sedol.	The Lead Programmers of the AlphaGo program were Drs David Silver and Aja Huang who were both students at UAlberta.
2017	The DeepStack Program defeats professional poker players in heads-up no limit Texas Hold'em poker.	The achievement was featured on the cover of the Journal of Science in May, 2017, and was led by UAlberta professor Dr. Michael Bowling.

How the university of Alberta has contributed to AI



Building an Ecosystem

## Some Facts About Canada



CANADA IS THE **EASIEST**  
**PLACE TO START A**  
**BUSINESS** IN THE  
G20. (*WORLD BANK,*  
*DOING BUSINESS 2019*)



CANADA IS A **GLOBAL**  
**LEADER IN AI**  
**RESEARCH**, WITH 650 AI  
COMPANIES, LARGELY  
START-UPS



MONTREAL HAS THE  
**HIGHEST**  
**CONCENTRATION OF**  
**RESEARCHERS AND**  
**STUDENTS OF**  
**DEEP LEARNING** IN THE  
WORLD.



TORONTO HAS THE  
**HIGHEST**  
**CONCENTRATION OF AI**  
**START-UPS** IN THE  
WORLD.

## The AI super-cluster for supply chains



A super-cluster with  
\$290 million of  
federal and  
provincial funding



SMEs: mentorship  
and access to  
intellectual  
property to develop  
products and  
services



AI researchers:  
participate in  
projects to fast  
track  
commercialization  
of technology



Students and  
professionals: get  
trained on using AI  
and intelligent  
supply chains.






## International investments in AI



Borealis AI: a long-term investment from RBC,  
the largest bank in Canada



**ELEMENT<sup>AI</sup>**



Montréal  
Toronto  
London  
Singapore  
Seoul

CANADIAN STARTUP NEWS & TECH INNOVATION

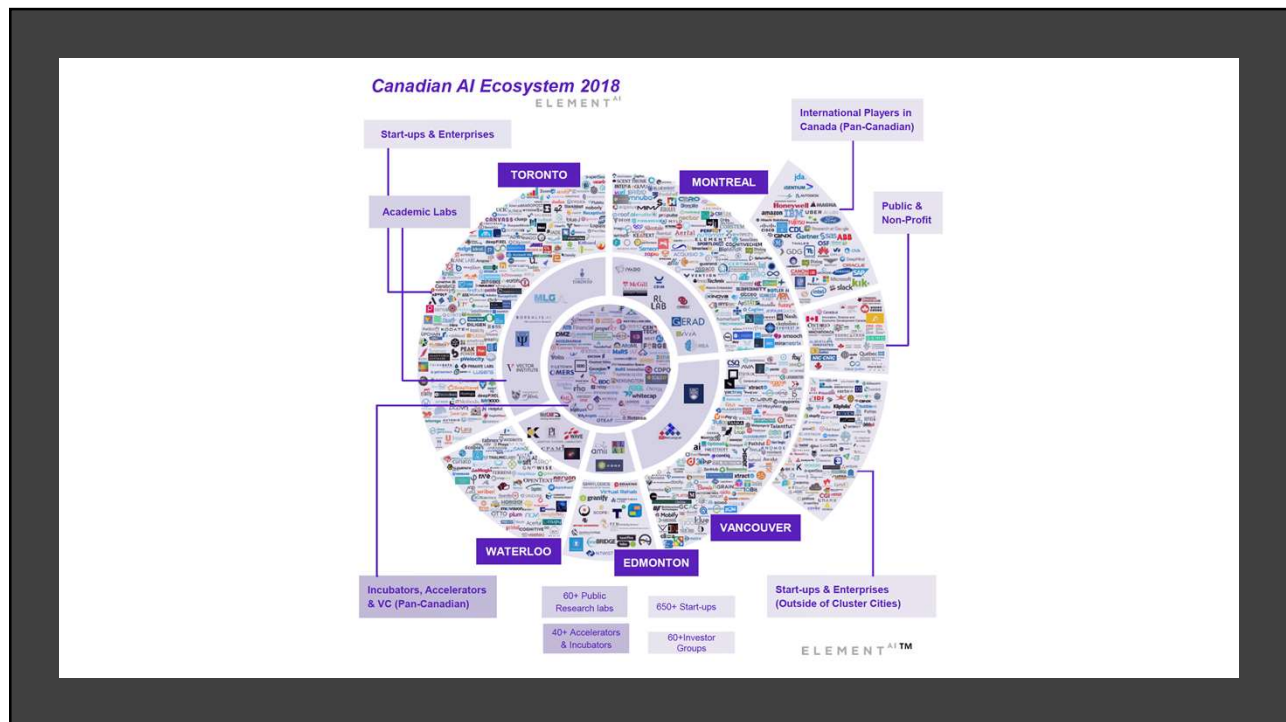
BY ISABELLE KINKHOFF / CANADIAN STARTUP NEWS / SEPTEMBER 13, 2019

**ELEMENT AI ANNOUNCES \$200 MILLION CAD SERIES B ROUND**

One of the most funded AI startups in the world



World-renowned accelerators and incubators



A  
Collaborative  
Ecosystem





# AI for Humanity

## Ethical and Fair AI

“PROTECTING THE RIGHTS TO EQUALITY AND NON-  
DISCRIMINATION IN ML SYSTEMS”  
**THE TORONTO DECLARATION**

“AI TO MAKE OUR SOCIETIES BETTER, IN THE BEST INTEREST  
OF, AND WITH RESPECT FOR EVERYONE”  
**THE MONTREAL DECLARATION OF RESPONSIBLE AI**

# AI for Climate Change

## Tackling Climate Change with Machine Learning

David Rolnick<sup>1\*</sup>, Priya L. Donti<sup>2</sup>, Lynn H. Kaack<sup>3</sup>, Kelly Kochanski<sup>4</sup>, Alexandre Lacoste<sup>5</sup>, Kris Sankaran<sup>6,7</sup>, Andrew Slavin Ross<sup>8</sup>, Nikola Milojevic-Dupont<sup>9,10</sup>, Natasha Jaques<sup>11</sup>, Anna Waldman-Brown<sup>11</sup>, Alexandra Luccioni<sup>6,7</sup>, Tegan Maharaj<sup>6,7</sup>, Evan D. Sherwin<sup>2</sup>, S. Karthik Mukkavilli<sup>6,7</sup>, Konrad P. Kording<sup>1</sup>, Carla Gomes<sup>12</sup>, Andrew Y. Ng<sup>13</sup>, Demis Hassabis<sup>14</sup>, John C. Platt<sup>15</sup>, Felix Creutzig<sup>9,10</sup>, Jennifer Chayes<sup>16</sup>, Yoshua Bengio<sup>6,7</sup>

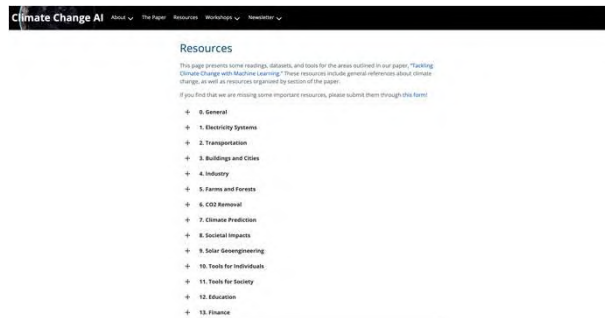
<sup>1</sup>University of Pennsylvania, <sup>2</sup>Carnegie Mellon University, <sup>3</sup>ETH Zürich, <sup>4</sup>University of Colorado Boulder,

<sup>5</sup>Element AI, <sup>6</sup>Mila, <sup>7</sup>Université de Montréal, <sup>8</sup>Harvard University,

<sup>9</sup>Mercator Research Institute on Global Commons and Climate Change, <sup>10</sup>Technische Universität Berlin,

<sup>11</sup>Massachusetts Institute of Technology, <sup>12</sup>Cornell University, <sup>13</sup>Stanford University,

<sup>14</sup>DeepMind, <sup>15</sup>Google AI, <sup>16</sup>Microsoft Research



## Reinventing Healthcare



A STRONG PUBLIC HEALTH CARE SYSTEM WHICH COLLECTS MASSIVE AMOUNTS OF DATA



INVESTMENTS TO LINK AND INTEGRATE HEALTH DATA TO MAKE BETTER USE OF THIS VALUABLE INFORMATION.

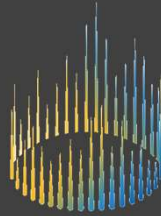


FIRST-RATE UNIVERSITIES, 17 RESEARCH HOSPITALS AND SOME OF THE WORLD'S TOP TALENT

# 1QBit

# *introhive*

# CGI



BOREALIS AI



## Why Canada?





