FINANCIAL TECHNOLOGY

UNIVERSITY OF ALBERTA
FACULTY OF SCIENCE

BY THE NUMBERS:

5

Our mathematics programs are ranked top 5 in the world.
(Maclean's University Rankings, 2019)

3rd

Our AI, machine learning, and data mining programs are ranked 3rd in the world over the last 25 years
(CSRankings, 2020)

103

faculty members with expertise in computing science, mathematics, and statistics.

8

Canadian Institute for Advanced Research (CIFAR) chairs in AI More than $10M in research funding.

SHAPING THE WORLD:

With research expertise in artificial intelligence (AI), data science, and mathematical finance, the University of Alberta's Faculty of Science has its eyes focused on the future of financial technology.

Our scientists are committed to finding effective, interdisciplinary solutions for the challenges facing the financial sector, including fraud detection, predictive analytics, and both employee and customer support. This means building cutting-edge research, growing world-class experts, and forging strong partnerships with our collaborators in the financial and technology sector.

THE ALBERTA ADVANTAGE: KEY PROJECTS AND PARTNERSHIPS:

ALBERTA MACHINE INTELLIGENCE INSTITUTE (AMII)
Drawing from world-leading academic research at the University of Alberta and other institutions, Amii helps Alberta workers reskill and upskill for high-demand careers in artificial intelligence and guides Alberta-based businesses as they implement artificial intelligence across operations and build their in-house capabilities and teams.

ALTAML
Alberta-based machine learning company AltaML is focused on building applications powered by applied machine learning to drive innovation. The company, founded by UAlberta alumni, has funded a professorship in natural language processing in the Department of Computing Science, and also provides support for programming at the Faculty of Science Student Innovation Centre. AltaML also contributes significantly to graduate student internships and employs several alumni.

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ALBERTA TREASURY BRANCH (ATB)

ATB's data scientists are working with UAlberta experts to create customer-centric experiences that redefine the value a financial institution can deliver. Projects are focused on real-time fraud detection, predictive analytics that are focused on customer support, and a tailored recommendation system. This work is designed to enhance human capabilities, allowing ATB to function more effectively, deepening their efforts in maintaining customer relationships.

DEEPMIND

Following the recent expansion of DeepMind with their first non-UK lab housed in Edmonton, DeepMind has funded an endowed chair position in our Department of Computing Science. The new position comes with additional funding to support other departmental initiatives relating to AI research in the Department of Computing Science.

SCOTIABANK

The Scotiabank Artificial Intelligence Research Initiative, housed in UAlberta's Department of Computing Science, is designed to enhance artificial intelligence research to understand and build practical tools and predictive models for fraud detection and speech to text in analytics. Scotiabank is also supporting the growth and development of diversity and women in science, technology, engineering, and mathematics (STEM) at UAlberta.

SERVUS CREDIT UNION

Servus Credit Union is collaborating with UAlberta scientists on research projects in data science, artificial intelligence, machine learning, natural language processing, and related areas. Our partnership includes joint research projects, the opportunities for graduate student research applied to real-world financial challenges, support for student activities, and professional development for Servus employees.

WORLD-CLASS EXPERTISE: COMPUTING SCIENCE, MATHEMATICS, AND STATISTICS

We are experts in AI, computer vision, data analytics machine learning, mathematical finance, natural language processing, and robust statistics.
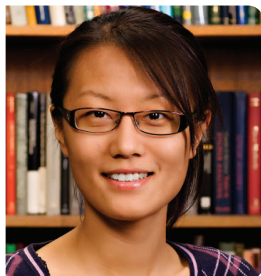
BEI JIANG applies machine learning models to debt collection optimization, small business lending decision modelling, and open banking initiatives with industry partners.
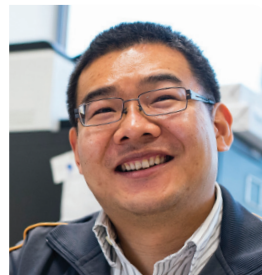
CHRIS FREI studies quantitative finance, risk management and mathematical economics. He is also an expert in digital and cryptocurrencies.

ELENI STROULIA examines how collaborative, model-driven software can improve information and communication technology.

LINGLONG KONG uses statistical machine learning to help our industry partners understand the financial wellbeing of their customers.

MICHAEL BOWLING works with industry to develop robust decision-making tools using customer data.

OMID ARDAKANIAN is building a data analytics platform to support the work of collaborators in finance.

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