



UNIVERSITY
OF ALBERTA

Department of Computing Science

Unique Offerings

Founded in 1964, the Department of Computing Science at the University of Alberta is the oldest and one of the largest computing science departments in Canada.

Embedded Certificates

Intended to complement studies with courses that give opportunities to work in multidisciplinary teams, interact with industry, complete a capstone project, and add valuable skills to your resume.

- **Artificial Intelligence Everywhere Certificate**
Demystify the field of AI through introductory topics
- **Certificate in Applied Data Science**
Fundamentals and applications across disciplines
- **Certificate in Computer Game Development**
Build complete small to medium-scale games

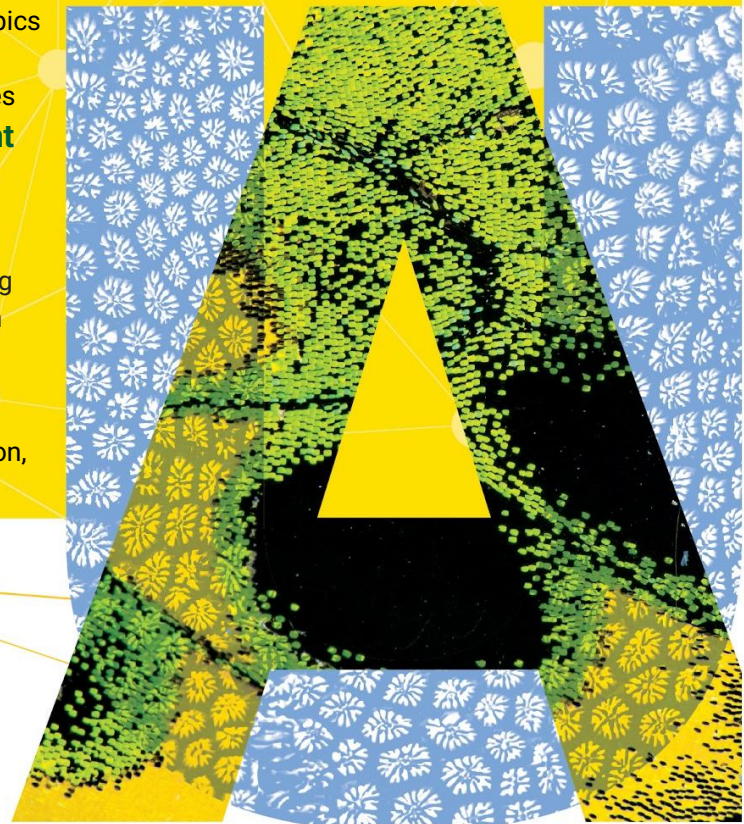
Alberta Machine Intelligence Institute

Internationally recognized for advancing machine learning and data mining research as well as ranking **2nd in North America** for artificial intelligence research.

Additional **undergraduate research** opportunities exist in various areas such as games, human-computer interaction, natural language processing, optimization, and systems.

More Information

csugrad@ualberta.ca
cs.ualberta.ca



Undergraduate Programs

Computing scientists invent solutions that drive our world. As a discipline that has grown at an unprecedented speed, it continues to evolve each day both in foundations and applications.

COMPUTING SCIENCE - BSc Major/Minor | BSc Honors

Flexible programs allow students to choose either a broad or intense focus on the core aspects of computing science, as well as explorations of interdisciplinary connections with other fields.

SOFTWARE PRACTICE - BSc Major | BSc Honors

Designed for students who are interested in all aspects of building software, this program offers depth in programming, algorithms, hardware, software design, user interfaces, project management, and business issues. This 5 year program includes a Science internship placement.

ARTIFICIAL INTELLIGENCE - BSc Major | BSc Honors

For students curious about artificial intelligence, this program includes foundations in machine learning, reinforcement learning, search, and ethics, as well as applications such as robotics, games, visual recognition, and natural language processing.

DATA SCIENCE - BSc Major | BSc Honors

Jointly offered with the Departments of Mathematical and Statistical Sciences, this program provides students with a strong interdisciplinary education. The program prepares students to work with data in a rigorous and responsible way.

- **GENERAL OPTION**

Provides a balanced program across computing science, mathematics, and statistics.

- **COMPUTING OPTION**

Emphasizes programming, algorithms, machine learning, and large-scale data systems.

- **MATHEMATICS OPTION**

Focuses on mathematical modelling, optimization, stochastic processes, and the theoretical foundations of data science.

- **STATISTICS OPTION**

Emphasizes statistical modelling, inference, regression, and statistical learning methods for analyzing real-world data.

Possible Careers

Our graduates are routinely recruited by top companies including Amazon, BioWare, Dell EMC, Electronic Arts, Google, Jobber, Microsoft, and Telus. Examples of current and future careers include:

- Application Analyst / Developer
- Artificial Intelligence Specialist
- Computer Programmer
- Corporate Security Specialist
- Data Scientist
- Database Administrator / Developer
- Game Developer
- Mobile Applications Developer
- Network Administrator / Analyst
- Research Analyst
- Video Game Designer
- Web Developer



For admission requirements: ualberta.ca/admissions

For admission related questions: science.recruiting@ualberta.ca