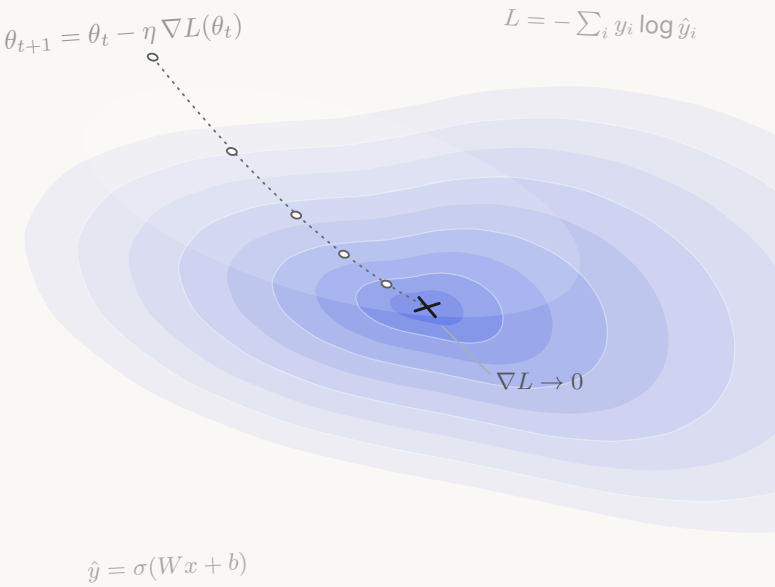
INTERNATIONAL MACHINE LEARNING COMPETITION

Vision & Mission

EDITION 2026



01 SECTION

Vision and Mission

Machine learning now sits behind search results, translation, medical imaging, and countless other tools we use every day. Most students who use these tools never learn how they actually work. We think that gap matters: understanding the models that shape decisions is becoming as fundamental as understanding statistics or algebra.

The International Machine Learning Competition offers students a platform to challenge their analytical and problem-solving skills, explore core machine learning concepts, and go deeper into this field beyond the standard school curriculum. We believe that blending education with friendly competition can inspire students to develop a lasting passion for machine learning, potentially leading to fulfilling careers in research, industry, education, or innovation.

Learning How Machine Learning Works

Many students learn to use machine learning tools without ever learning how those tools work underneath. IMLC is built for the second kind of learning. Our problems ask students to reason about models directly: why a loss function is shaped the way it is, why a network generalizes or overfits, what a training curve is actually telling you.

Rather than testing memorised facts, our problems ask students to work through the mechanics: derive a result, trace how a model behaves, and spot where an approach breaks down or needs more data. These are the habits that separate someone who can use a model from someone who understands what it is doing.

Machine learning tools are easy to use and hard to understand. IMLC helps students build the understanding.

The International Machine Learning Competition aims to be accessible to all students from all countries, regardless of their background, school, or institution: all you need is a pen, paper, and an internet connection to join!

02 SECTION

What makes IMLC unique?

While competition is part of IMLC, our core mission is to foster genuine engagement with machine learning, sparking curiosity and encouraging further exploration in this and related fields. IMLC is a learning journey, enabled by diverse problem formats that enhance

a student's understanding through practical application. Key aspects that distinguish IMLC include:

- **Internationality**: From the very first round, IMLC is a truly global event. All participants tackle the same challenges, ensuring fair assessment and fostering international connections.
- **Digital Accessibility**: We utilize the power of the internet to open participation to students everywhere, regardless of geographic location or school affiliation. While teacher guidance is beneficial, motivated individuals can participate independently from anywhere.
- **Six Machine Learning Domains**: IMLC covers the full pipeline of machine learning, from fundamentals to current research. The competition spans six domains: Fundamentals, Optimization & Generalization, Deep Learning, Frontier Models, Applications, and Trustworthy AI. These domains are presented through diverse problem formats that combine conceptual understanding with practical application, requiring students to derive results, perform calculations, analyze data, and build and evaluate models.
- **Real-World Machine Learning**: Bridging the gap between academic learning and cutting-edge research is vital. IMLC problems typically draw on ideas from recently published research and real-world applications. This unique feature provides many participants with their first exposure to applying rigorous methods to current, authentic problems.
- **Scaling Difficulty Levels**: Our problems are designed to engage both experienced machine learning enthusiasts and those beginning to explore the subject beyond the classroom. The difficulty ranges from approachable exercises that reinforce foundational concepts to advanced challenges that introduce novel formats and require deeper analytical thinking. This ensures a rewarding and intellectually stimulating experience for all participants.
- **Online Tools for Educators**: We equip teachers and schools with resources and support. A dedicated teacher interface allows for streamlined management of student submissions, results tracking, certificate access, and supervision of the Final Round.
- **Local Communities & Ambassadors**: IMLC encourages the formation of local student groups focused on machine learning. Our Ambassador Program empowers motivated students to inspire peers, organize local events, and build vibrant communities centered around a shared interest in machine learning.