

BLENDED LEARNING[™]

WHERE THEORY MEETS PRACTICE.



AI+X PROGRAMS

Where Theory Meets Practice

PROGRAM OVERVIEW | MARCH 2025

AI+X PROGRAMS



97 Million

New AI-related jobs will emerge globally across key industries by 2025

— World Economic Forum's Future of Jobs Report (2020)

Learn **AI+X** with a Blended Learning Approach

In today's rapidly evolving technological environment, where **AI and advanced technologies** are transforming industries, the global demand for interdisciplinary expertise has reached unprecedented levels.

The AI market is expected to expand from \$86.9 billion in 2022 to **\$407 billion by 2027**, illustrating the extensive integration of AI across sectors ranging from healthcare to finance.

With 97% of Fortune 1000 companies investing in AI and anticipating significant impacts across various domains, there is an **urgent need** for cutting-edge educational solutions that seamlessly merge theoretical knowledge with practical skills.

Situated in the vibrant heart of **Kendall Square**, Cambridge, United States—globally celebrated as the most innovative square mile and a hub for seminal Massachusetts Institute of Technology (MIT) initiatives—Blended Learning is a nexus of **academic rigor and practical application**.

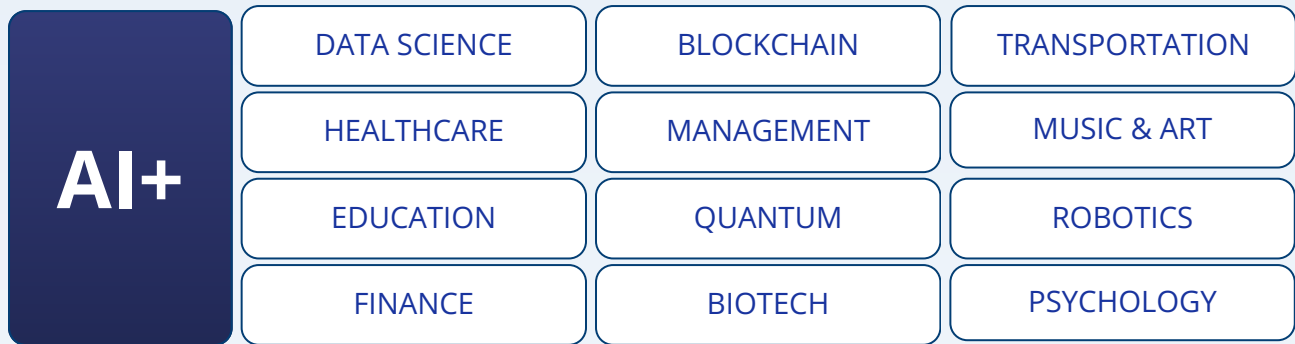
Our partnerships with premier academic departments and institutions, including MIT xPRO, allow us to offer a rich curriculum that blends **interactive lectures** with **hands-on project-based learning (PBL)**.

These programs are available both **online and on the campus**, specifically designed to deepen understanding of advanced interdisciplinary topics.

Empowering Future Education in AI+X

To succeed in this evolving landscape, individuals need an AI education that goes beyond theory—one that bridges cutting-edge research with real-world applications.

At Blended Learning, we integrate AI+X interdisciplinary learning, hands-on projects, and expert mentorship to equip learners with the skills needed to excel academically and thrive professionally.



FY 2025 Blended Learning Engagement

10,100

Online Learners

151

Partnered Universities

1,272

On-campus Visits

93

Faculty & Researchers

41

Courses and Projects

366

Project Outcomes

1,870

Hours of Live Interactions

416

Live Events



WHAT IS BLENDED LEARNING

Blended Learning integrates Lecture-Based and Project-Based Learning to seamlessly combine theory with practice.



Theory

Lecture-Based Learning

- Lead by esteemed professors
- Trendy technical fields
- Cohort based with live interactions
- Discussion board with global cohorts

Practice

Project-Based Learning

- Led by experienced researchers
- Niche research questions
- Self-selected topics
- Team collaboration

SPOC (Small Private Online Courses)

LECTURE-BASED LEARNING

Join small, synchronized cohorts led by professors from prestigious universities, offering personalized, live learning experiences. Master cutting-edge techniques that blend a strong theoretical foundation with practical, real-world applications.

PBL

PROJECT-BASED LEARNING

Apply your knowledge and skills to real-world projects, tackling authentic challenges and exploring interdisciplinary research topics. Produce a comprehensive project report, write a publishable paper, and gain hands-on experience in both the practical and research domains.

On-Campus Experience

IMMERSIVE EXPERIENCE

Experience the dynamic on-campus program at MIT. Accelerate your learning with intensive lectures and hands-on project-based learning sessions. Gain in-depth knowledge and practical skills, and immerse yourself in the vibrant academic life on campus.

WHO SHOULD ATTEND

Consider joining if you aim to achieve any of the following goals



Dive Deep Into Academia

Explore niche topics | Expand academic network | Sharpen research and writing skills | Work towards potential publication



Enhance Your Excellence

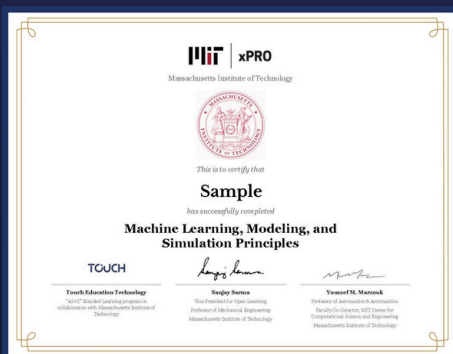
Through certified achievements that stand out in any application process | Bolster your academic profile



Boost Career Development

Build in-demand skills for career advancement | Explore job opportunities | Strengthen leadership and management abilities

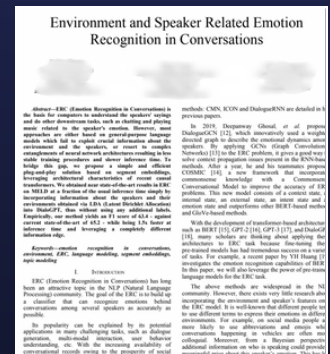
PROGRAM BENEFITS



Sample of Certificate



Sample of Recommendation Letter



Sample of Research Paper

MIT Certificate

Earn a recognized credential to validate your AI+X expertise

Strong Recommendations

Receive letters from mentors to support your career or academic pursuits

Research Publications

Develop and publish research posters and papers



AI+X Expertise

Build interdisciplinary knowledge applicable across industries



Problem-Solving Skills

Master real-world challenges through hands-on projects



Student Experience

Participate in the campus's academic and research community



Global Network

Connect with alumni and professionals worldwide



Career Growth

Advance academically and professionally with recognized achievements

SPOC

Lecture-based

IN COLLABORATION WITH **MIT** xPRO

Small Private Online Courses

Join small, synchronized cohorts with professors from prestigious universities, fostering personalized live learning experiences.



LEARN BY DOING

Gain hands-on experience through simulations, assessments, case studies, and practical tools.



LEARN ON DEMAND

Access all content online, allowing you to watch videos and learn anytime, anywhere.



REFLECT AND APPLY

Use your new skills in real-world situations, guided by technical examples and reflection prompts.



DEMONSTRATE YOUR SUCCESS

Earn a certificate from MIT xPRO along with Non-Degree Education Units (CEUs).



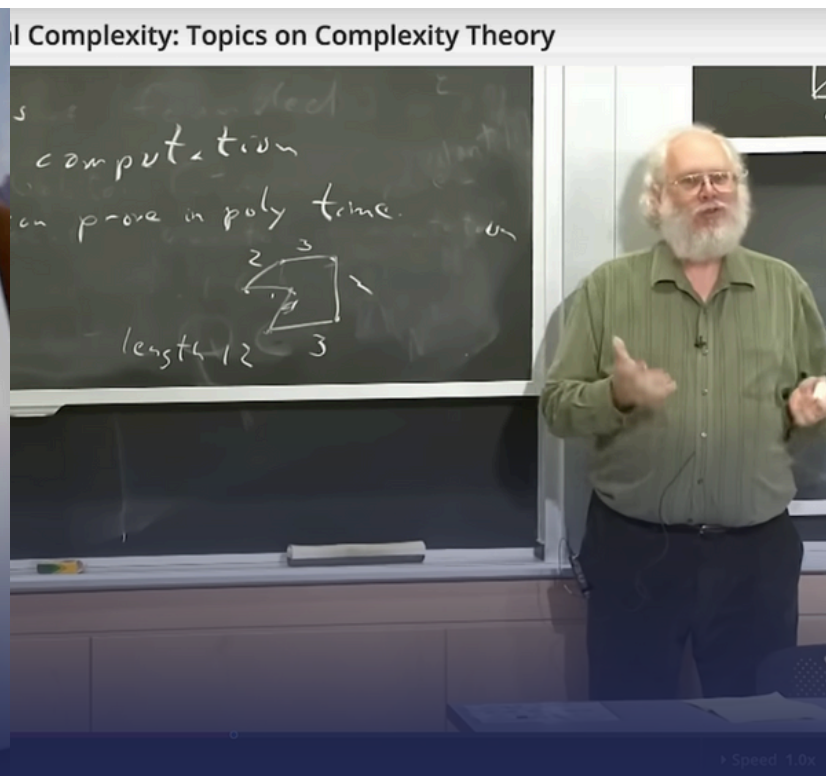
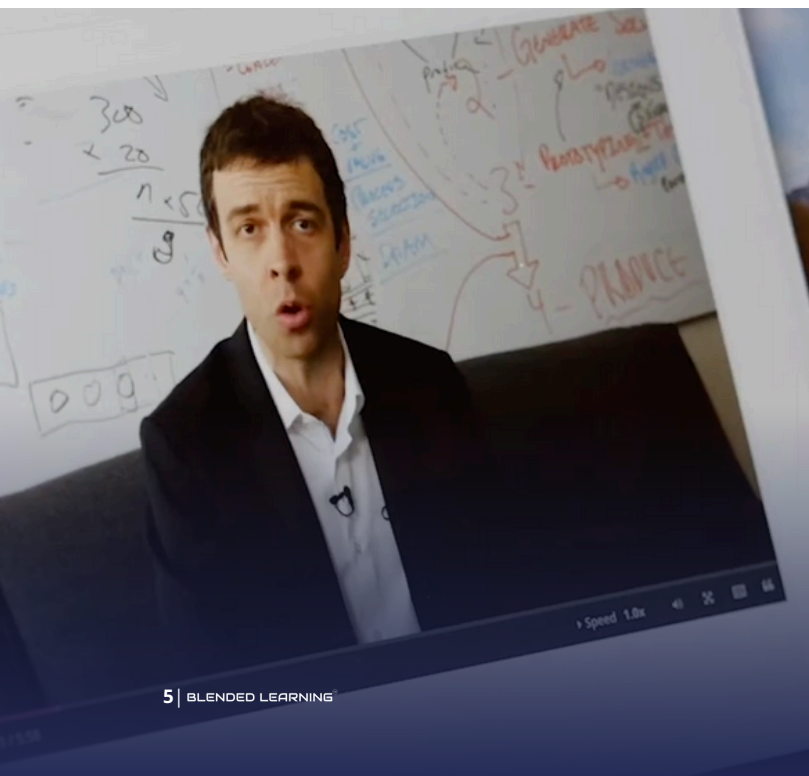
LEARN FROM OTHERS

Collaborate with an international community on projects inspired by real-world examples.



LEARN FROM THE BEST

Benefit from the knowledge of MIT faculty and industry leaders throughout the program.



Available SPOCs

Applying Machine Learning to Engineering and Science

TOPICS COVERED

- Feature Engineering in Li-Ion Battery Life Prediction
- Machine Learning for Computational Imaging
- Seismic Deep Fakes: Neural Nets to Generate Missing Data
- Prediction of Oil and Gas Production
- Machine Learning in Geometric Representations
- Quantifying Risk in Complex Systems Using Machine Learning
- Machine Learning in Accelerating Computational Materials Discovery
- Practical Machine Learning in Composite Design
- Machine Learning for Data Simulation and Inverse Problems

LEADING PROFESSOR

Youssef M. Marzouk

Director of the MIT Center of Computational Engineering, Associate Professor of Aeronautics, and Director of the Aerospace Computational Design Laboratory at MIT

Architecture of Complex Systems

TOPICS COVERED

- Making Early Tradeoff Decisions
- Value-Oriented Decision Making
- Generating and Evaluating Alternatives
- Tradespace Exploration and Analysis

LEADING PROFESSOR

Bruce G. Cameron

Director of the System Architecture Lab, MIT

Principles of Biomanufacturing

TOPICS COVERED

- History of Modern Bio-manufacturing
- Protein Structure & Function
- Cell Line Development
- Upstream Processing
- Downstream Processing
- Downstream Processing & Regulation

LEADING PROFESSOR

J. Christopher Love

Raymond A. (1921) and Helen E. St. Laurent Professor of Chemical Engineering

Machine Learning, Modeling, and Simulation Principles

TOPICS COVERED

- Introduction, Review of Linear Algebra and Matrix Operations, and Modeling Fundamentals
- More Modeling and Simulation
- Optimization and Data-Driven Modeling
- From Optimization to Machine Learning
- Probabilistic Methods
- Case Studies and Summary

LEADING PROFESSOR

Youssef M. Marzouk

Director of the MIT Center of Computational Engineering, Associate Professor of Aeronautics, and Director of the Aerospace Computational Design Laboratory at MIT

Technical Innovation

TOPICS COVERED

- Radical Innovation
- Urgency and Spirit of Radical Innovation
- How Innovation is Broken
- Leading in Innovation
- Lean and Agile

LEADING PROFESSOR

Sanjay Sarma

Vice President for Open Learning and Professor of Mechanical Engineering, MIT

Quantitative Methods in Systems Engineering

TOPICS COVERED

- Systems Thinking
- Function and Emergence
- System Architecture
- Modeling With Design Structure Matrixes (DSMs) and Modularization
- System Architect

LEADING PROFESSOR

Edward F. Crawley

Ford Professor of Engineering, Department of Aeronautics and Astronautics, MIT

Introduction to Quantum Computing

TOPICS COVERED

- Introduction to Quantum Computing
- Computing Leading Qubit Modalities
- Applications of Quantum Information
- A Simple Quantum Algorithm in Practice

LEADING PROFESSOR

Isaac Chuang
Professor of Physics and Electrical Engineering, Senior Associate Dean of Digital Learning at MIT

Models in Engineering

TOPICS COVERED

- What is a Model?
- Making a Model
- Joining Several Models Together
- Models in Verification and Validation

LEADING PROFESSOR

Bruce G. Cameron
Director of the System Architecture Lab, MIT

Documentation and Analysis

TOPICS COVERED

- What is MBSE?
- Building an MBSE Model
- Critiquing an MBSE Approach
- Managing the Model

LEADING PROFESSOR

Bruce G. Cameron
Director of the System Architecture Lab, MIT

Understanding Organizational Strategy and Capabilities

TOPICS COVERED

- Strategy
- Products
- Capability Work and Dynamic Work Design
- The Four Principles of Dynamic work Design

LEADING PROFESSOR

Nelson P. Repenning
Professor of System Dynamics, Sloan School of Management, MIT

System Thinking

TOPICS COVERED

- Foundation of System Thinking
- Emergence and System Success
- Supply Chain and Computational Approaches
- System Dynamics: Tools for Learning in a Complex World
- System Dynamics Application: Managing Complex Projects

LEADING PROFESSOR

Edward F. Crawley
Ford Professor of Engineering, Department of Aeronautics and Astronautics, MIT

Transformational Technologies

TOPICS COVERED

- Overview on Transformational Technologies
- Physical Technologies
- Information Processing Technologies
- Human Interaction Technologies

LEADING PROFESSOR

Sascha L. Schmidt
Professor of Sports and Management at WHU – Otto Beisheim School of Management

Navigating and Leveraging Culture and Networks

TOPICS COVERED

- Culture
- Networks
- Change Management Simulation

LEADING PROFESSOR

John Van Maanen
Professor of Organization Studies, MIT

Discovering and Implementing Your Leadership Strengths

TOPICS COVERED

- Building Leadership Self-Awareness
- Discovering Your Strength and Defining Events
- Establishing and Implementing Your Vision

LEADING PROFESSOR

David Niño
Senior Lecturer, Gordon Engineering Leadership Program, MIT

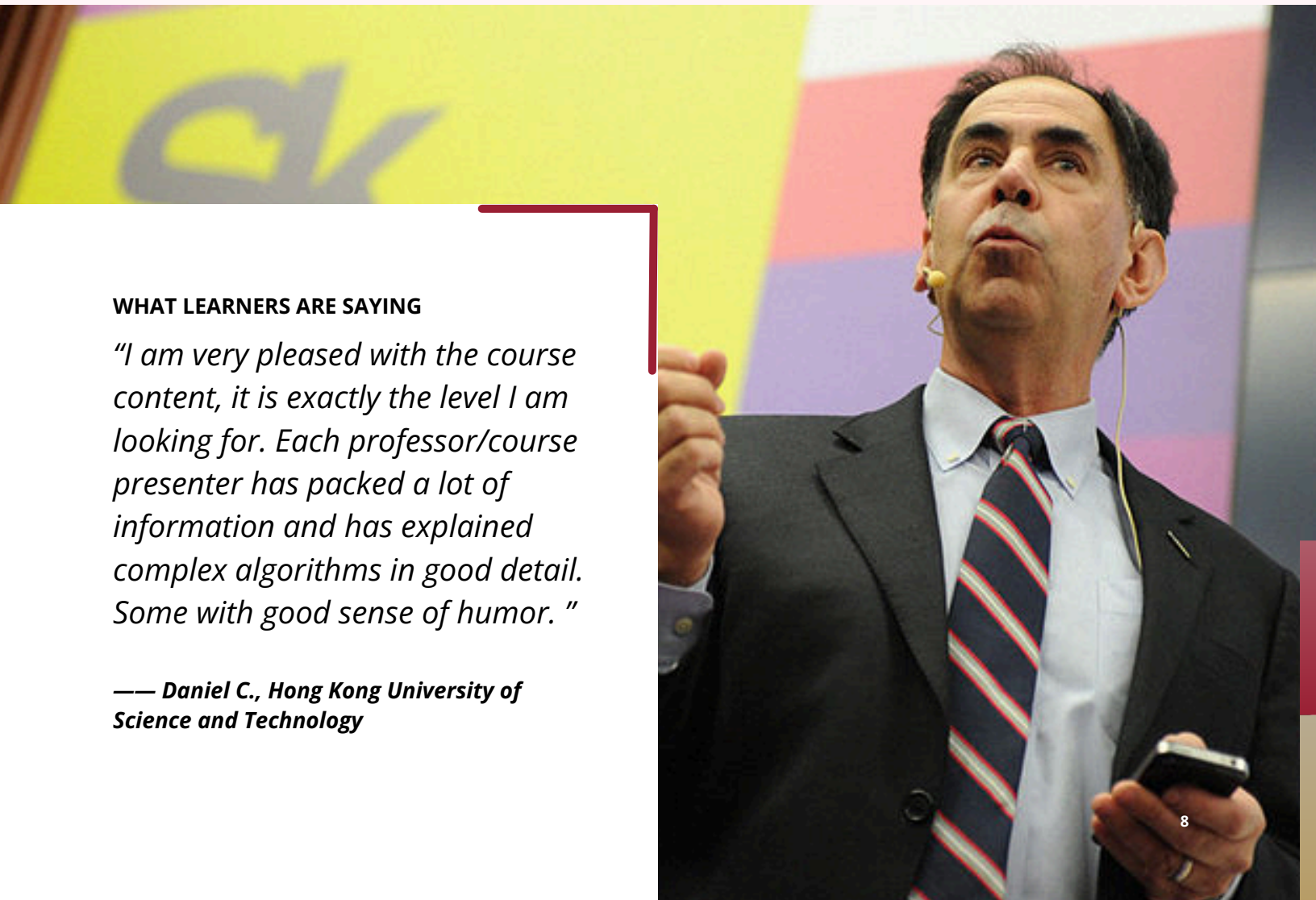
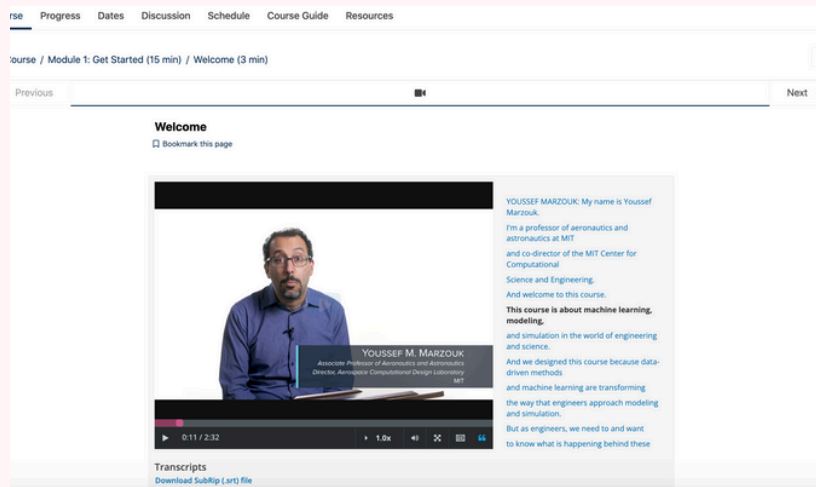
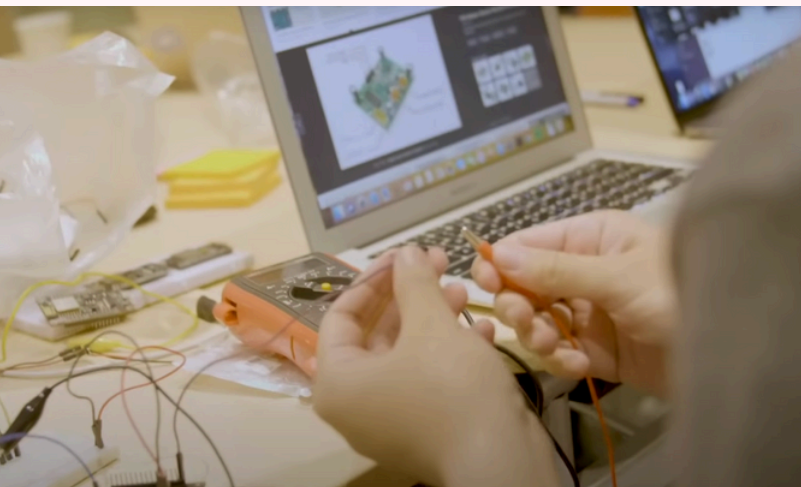
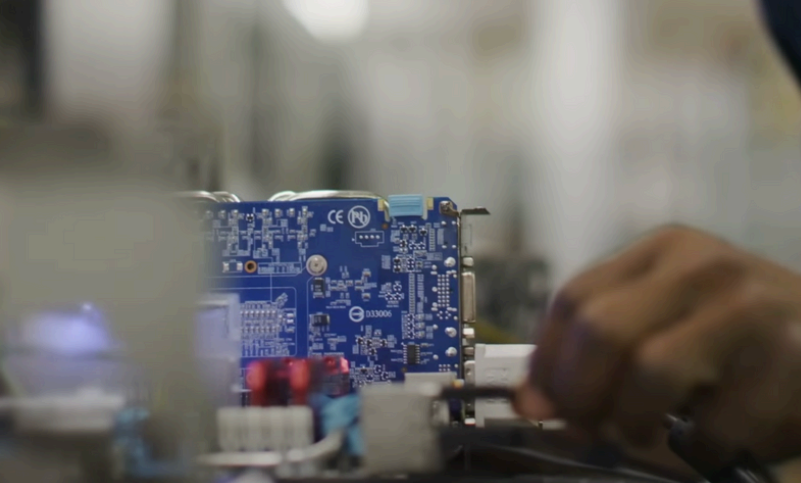
Negotiating and Applying Influence and Power

TOPICS COVERED

- Negotiation
- Influence
- Power

LEADING PROFESSOR

Lawrence Susskind
Ford Professor of Urban Planning and Environmental Planning, MIT



WHAT LEARNERS ARE SAYING

"I am very pleased with the course content, it is exactly the level I am looking for. Each professor/course presenter has packed a lot of information and has explained complex algorithms in good detail. Some with good sense of humor. "

— Daniel C., Hong Kong University of Science and Technology

PBL

Project-based

Apply your knowledge and skills in real-world projects, tackling authentic challenges, and exploring interdisciplinary research topics.



PROJECT-BASED LEARNING

Focused on real-world problem-solving through hands-on projects.



LEARNER-CENTERED

Tailored learning paths that prioritize individual growth and success.



INDUSTRY APPLICATIONS

Practical skills and insights directly applicable to real-world industries.



RESEARCH PROFICIENCY

Develop advanced research skills to drive innovation.



RECOMMENDATION LETTERS

Receive personalized recommendation letters from project leads to support applications.



RESEARCH PUBLICATIONS

Potential to publish your work and contribute to academic and industry advancements.

Our Academic Team plays a vital role in your PBL journey at Blended Learning. Our team consists of three distinct roles, each with a specific focus to support your research guidance, project progress, and personal growth.



Project Lead

Renowned researchers and/or industry experts who guide your advanced research, helping you develop scholarly expertise.



Academic Advisor

Oversees your project development, ensuring steady progress and offering tailored academic support.



Mentor

Dedicated to fostering your personal and professional growth, offering guidance on navigating your learning journey.

Available PBLs

AI + STRATEGY

AI Company Innovation Strategy - Meta Project

Explore AI strategies across biotech, semiconductors, and the metaverse to drive innovation and competitive advantage

PROJECT LEAD

Researcher of Management at the Wharton School of the University of Pennsylvania

AI + SUPPLY CHAIN

Operations Management and Supply Chain Analytics - Amazon Project

Optimize decision-making and enhance supply chain efficiency through advanced operations management techniques and analytics.

PROJECT LEAD

Operations Management Researcher, Sloan Business School, MIT

AI + DATA SCIENCE

Visual Data Science - Tableau Project

Master data visualization techniques and tools to effectively analyze, interpret, and communicate complex data across diverse domains.

PROJECT LEAD

Assistant Professor of Computer Science at Boston College and Researcher in Computer Science at MIT

AI + ROBOTICS

AI and Robotics for Mobile Robot Manipulation - Boston Dynamics Project

Build cutting-edge AI and robotics solutions to tackle real-world challenges in object detection, navigation, and design.

PROJECT LEAD

Researcher and MIT CSAIL Lab and Co-Founder/CTO at XYZ Robotics

AI + 3D GRAPHICS

Computer 3D Graphics and Deep Learning - NVIDIA Project

Create and innovate with cutting-edge computer graphics and deep learning techniques to produce advanced 3D models and simulations.

PROJECT LEAD

Researcher at MIT Computer Science and Artificial Intelligence Laboratory

AI + BLOCKCHAIN

Blockchain and AI in Financial Data Science - Galaxy Digital Project

Explore blockchain applications in finance, virtual assets, and risk management through hands-on projects and coding.

PROJECT LEAD

Researcher at MIT Digital Currency Initiative and founder of MIT's Cryptoeconomic Systems journal

AI + BIOTECH

AI and Computer Vision in BioTech - Novo Nordisk Project

Leverage AI and computer vision to transform medical imaging and accelerate biotech innovations in clinical trials.

PROJECT LEAD

Senior Imaging Scientist at Novartis and Researcher at MIT

AI + LARGE LANGUAGE MODELS

Generative AI with LLMs and Reinforcement Learning - OpenAI Project

Design AI-driven systems using large language models and reinforcement learning to build Q&A bots, improve NER, optimize dialogue summarization, and reduce toxic content.

PROJECT LEAD

AI Scientist and Researcher in Reinforcement Learning

AI + FINANCE

Machine Learning in Quantitative Finance - J.P. Morgan Project

Master machine learning for financial analysis, modeling, and risk management through practical, industry-relevant projects.

PROJECT LEAD

Assistant Professor of Mathematics, University of Southern California (USC)

AI + ENERGY

AI for New Frontiers in Energy and Environment - Shell Project

Leverage machine learning to predict and mitigate seismic activity, enhancing safety and sustainability in subsurface energy operations.

PROJECT LEAD

Researcher at MIT's Civil and Environmental Engineering Department and Harvard's Earth and Planetary Sciences Department

Quantitative Analysis in BioTech - Genentech Project

Learn to ask biological questions quantitatively and develop scalable, cost-effective solutions for disease diagnostics and scientific accessibility.

PROJECT LEAD

Bioengineering Researcher at Stanford University

Corporate Strategy Consulting - Boston Consulting Group (BCG) Project

Investigate how strategic ownership can optimize organizational design, enhance profitability, and minimize costs across diverse fields.

PROJECT LEAD

Scholar in Corporation Global Strategies and Assistant Professor

AI + QUANTUM

Quantum Machine Learning - Google Quantum AI Project

Explore the fusion of Quantum Computing and Machine Learning to develop cutting-edge algorithms and solutions.

PROJECT LEAD

Researcher in Quantum Computing at University College London

Innovation Management & Strategic Leadership - Deloitte Project

Drive innovation and strategic growth by mastering industry dynamics, organizational design, and leadership skills with real-world insights.

PROJECT LEAD

Researcher in Management and Organizations at Cornell University

Algorithmic Trading - Bridgewater Project

Develop, test, and optimize algorithmic trading strategies using time series forecasting and machine learning techniques to maximize portfolio returns.

PROJECT LEAD

Lead Applied Scientist & Researcher at MIT Sloan School of Management

Applied Psychology With Human Data - Headspace Project

Leverage data analytics and cognitive science to enhance brain training, improve well-being, and support educational outcomes.

PROJECT LEAD

Developmental Cognitive Neuroscientist at MIT

Perspectives in Quantitative Finance - Morgan Stanley Project

Explore quantitative finance applications through practical scenarios, enhancing programming, data management, and quantitative analysis skills.

PROJECT LEAD

Researcher in Investment Finance

Applied Data Science - Netflix Project

Engage with real-world data science projects to shape the future of business analytics!

PROJECT LEAD

Lead Applied Scientist & Researcher at MIT Sloan School of Management

The Business of Games - *Nintendo Project*

Explore the business of game development, from creation to monetization, and develop essential skills for pitching game ideas.

PROJECT LEAD

Founder in Game Industry and
Professor in The Business of Games

Computer Vision and Robotics - Amazon *Robotics Project*

Develop advanced computer vision skills to solve real-world problems in robotics, photography, human interaction, and smart home technologies.

PROJECT LEAD

Principal Computer Vision
Engineer

LIDAR, Photonic Quantum Computing and Machine Learning - Google Waymo *Project*

Explore and design innovative photonic devices for LIDAR, machine learning, quantum computing, and solar energy applications.

PROJECT LEAD

Researcher at MIT Quantum
Photonics Laboratory

Co-designing Quantum Computing Architecture - *IBM Project*

Design and evaluate efficient quantum computing architectures using simulation tools across various computational layers.

PROJECT LEAD

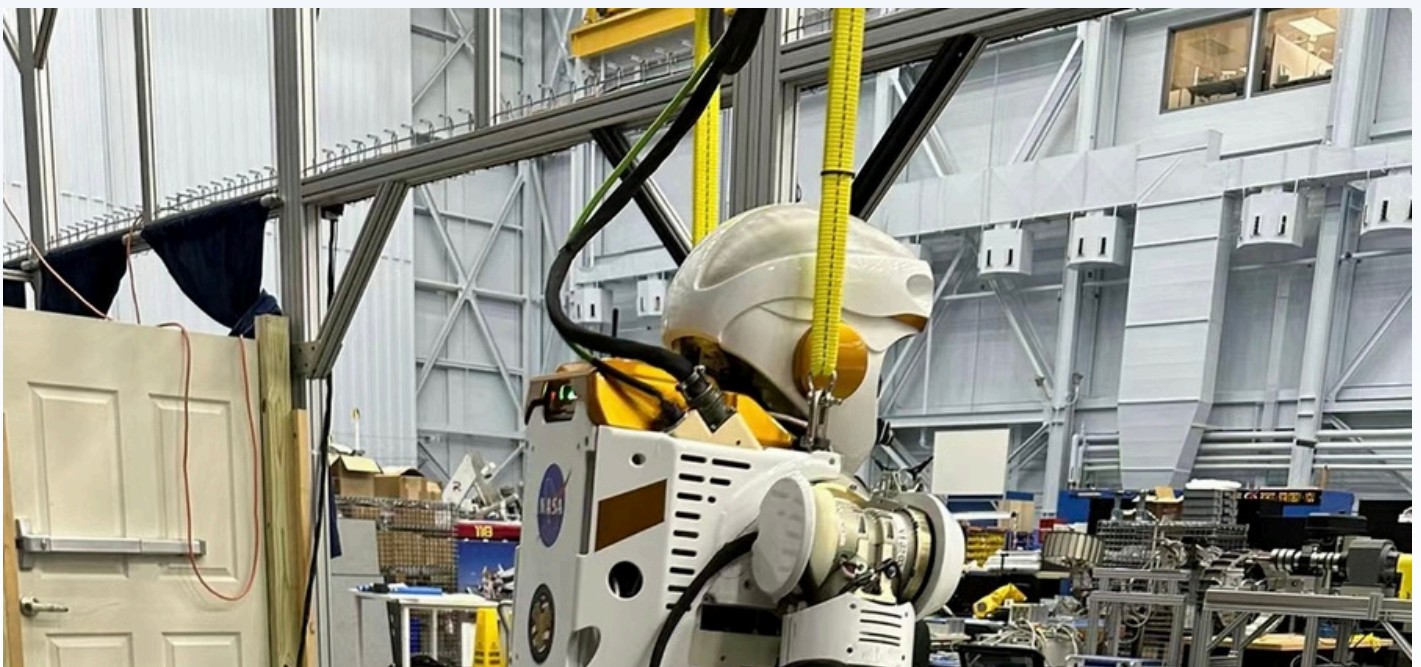
Researcher at MIT Quantum
Photonics Laboratory

Deep Learning for Computer Vision - *Microsoft Project*

Gain practical experience and modern tools in computer vision by exploring image synthesis, medical analysis, object detection, retrieval, and robustness.

PROJECT LEAD

Researcher and MIT CSAIL Lab
and Co-Founder/CTO at Startup



PBL Research Extension:

Continue Your Research from Poster to Paper

When you've completed the 8-week PBL and showcased your ideas in a research poster—now it's time to take that work to the next level! Our PBL Research Extension is designed to help you turn your poster into a **full research paper**, guiding you from where you left off to a complete manuscript with the potential for publication.

Why Continue



Expand Your Research Impact

- Enhance the incredible work you've already done.
- Transform your research into something even more impactful.



Refine Your Research Skills

- Refine your research methods for improved accuracy.
- Polish your manuscript to meet professional journal standards.



Strengthen Collaborations with Project Leads

- Gain more in-depth interactions with your project lead.
- Elevate your research through close partnership and guidance.

How It Works



Start After Week 8

Sessions continue beyond the 8-week PBL to help transform your research poster into a full research paper.



Up to 5 Additional Flexible Sessions

There's no set schedule—sessions are arranged based on your progress, moving you steadily toward the completion of your research paper.

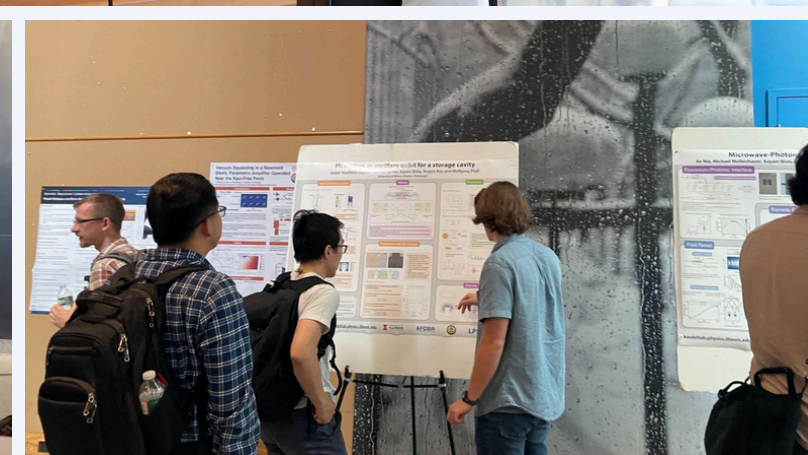
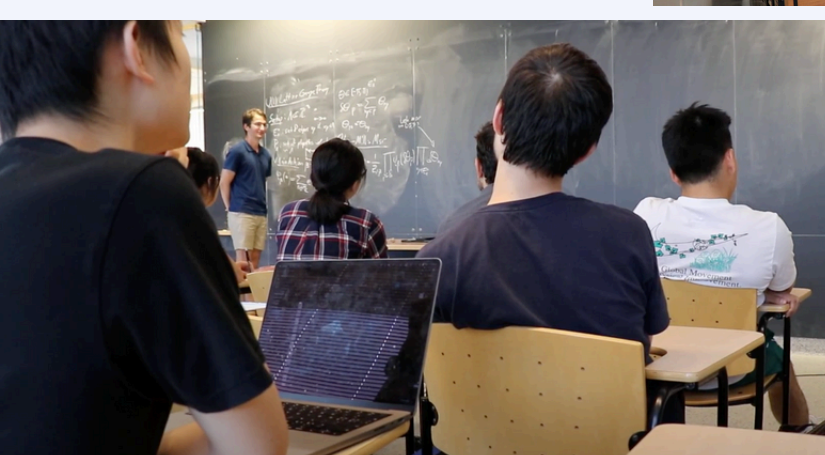
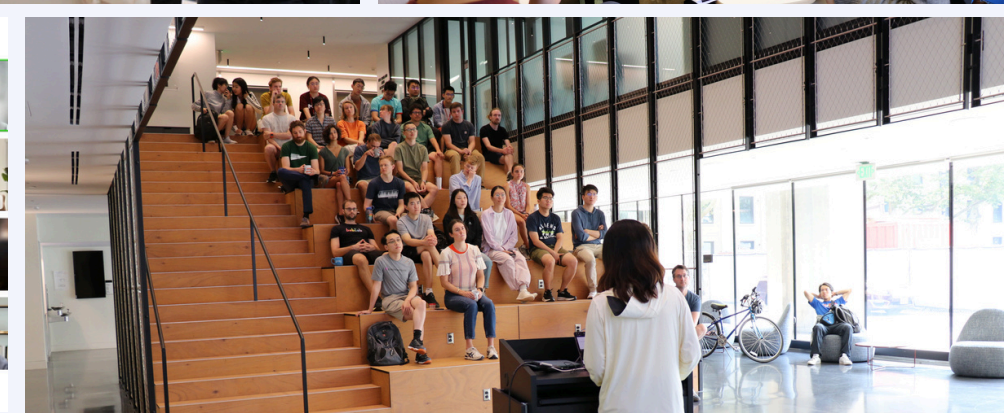
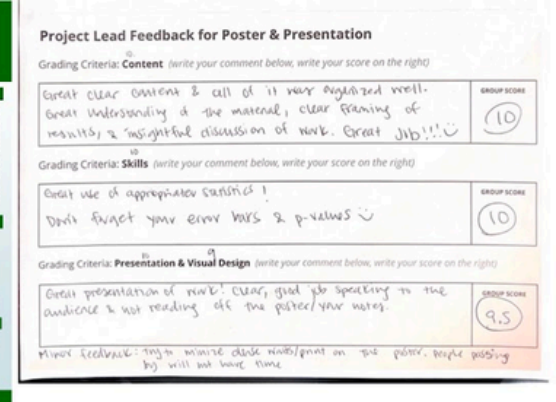
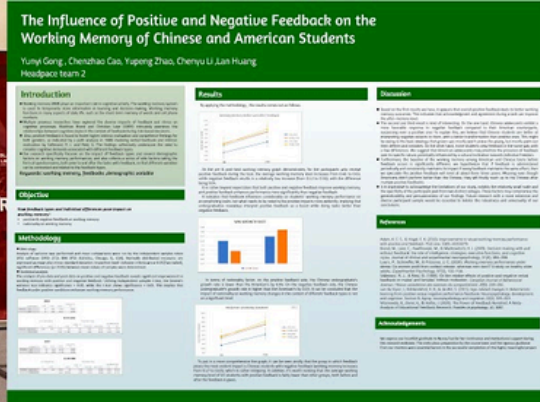
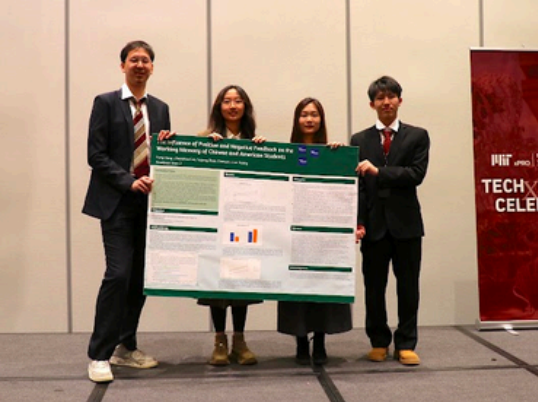


Stay Engaged

Consistent progress is key!

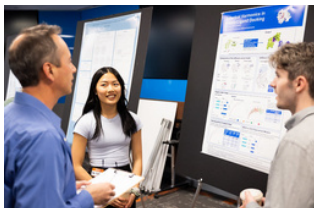
Regular engagement ensures you continue receiving support.

Participants will be required to submit an agenda before the meeting so project leads can prepare feedback.

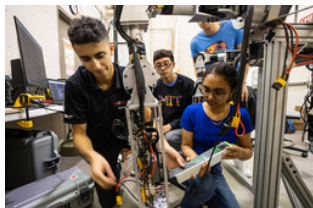


On-Campus Experience

We immerse students in the world's leading AI innovation hubs.



**Hands-On
PBLs**



**Interactive
Workshops**



**Networking
Events**



**Cultural
Activities**

Sample Schedule

Accepting Multi-session registration

- Day 1** Arrive in Boston and complete project check-in.
- Day 2** Attend the opening ceremony and participate in campus activities.
- Day 3** Engage in PBL project learning and group collaboration.
- Day 4** Continue PBL project learning and participate in the cultural activities*
- Day 5** Work on PBL project learning and enjoy free time in the evening.
- Day 6** Participate in PBL project learning and city cultural activities*.
- Day 7** Continue PBL Project learning and join campus networking events.
- Day 8** Focus on PBL project learning and engage in campus networking events.
- Day 9** Continue PBL project learning and collaborate with teammates.
- Day 10** Attend the AI+X interactive workshop and work on the PBL project.
- Day 11** Participate in the interactive workshop and continue project collaboration.
- Day 12** Present PBL project results and enjoy free time in the evening.
- Day 13** Return home safely and plan for future opportunities.
- Day 14** Arrive your hometown and continue online learning

Note:

All activities marked with an asterisk (*) are optional special activities, and their costs are not included in the program fee; please contact the course team for details.

The itinerary is for reference only, and the actual schedule may be adjusted based on various factors.

VOICE FROM LEARNER

From MIT to Clarity: My Defining Moment in AI Research

John, Yonsei University, South Korea
2025 Winter On-Campus Experience Participant
Started AI+X Research Plan in 2024



I first learned about this program through my Office of International Affairs (OIA) and applied for the opportunity to join this intensive on-campus experience from January to February 25 at MIT.

"I built a new MAE model and explored medical classification."

At MIT, I participated in the **AI and Computer Vision in BioTech - Novo Nordisk Project**. After completing a team project, I wanted to take on a similar but more challenging task. So, I built a new MAE model and explored MAE for medical classification as an independent project.

One of the most surprising aspects of the program structure was that **completing one track didn't mean we had to stop**—there was an opportunity to take on additional challenges. This **flexibility** allowed me to deepen my understanding of medical AI and apply it in different domains.

"Thanks to his recommendation, I presented my research at Harvard Medical Lab."

Another memorable experience was a speed networking event. Initially, I saw it as a great chance to meet professionals and exchange ideas.

During the event, I met a **Harvard Medical Lab researcher** who was intrigued by my work and invited me to their lab. Thanks to his recommendation, I was able to present my research to other researchers in their lab on February 2nd, just a day before I returned to Korea.

"This conversation was a defining moment for me."

Throughout this program, I was also asking myself a major question: Should I pursue research in academia or industry?

At the XYZ Robotics workshop, I had the chance to discuss this with the company's CTO. The XYZ Robotics CTO, who had pursued a PhD at MIT, shared his insights with me.

His explanations provided me with a clear answer to my dilemma. I realized that I wanted to stay in academia and continue my research. This conversation was a defining moment for me, helping me solidify my future career direction.

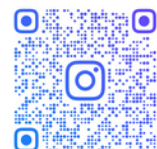
"In less than two weeks, I gained more valuable experience than ever before."

I know that traveling all the way to the U.S. and committing to an intensive program might seem tough. However, in just less than two weeks, **I gained more valuable experience than in any other period of my university life.**

This program gave me **clarity on my career path**, exposed me to cutting-edge research, and **connected me with top researchers and professionals**. I'm incredibly grateful for this experience and sincerely thank you for making this possible.



Click or Scan to Watch
the Full Talk On



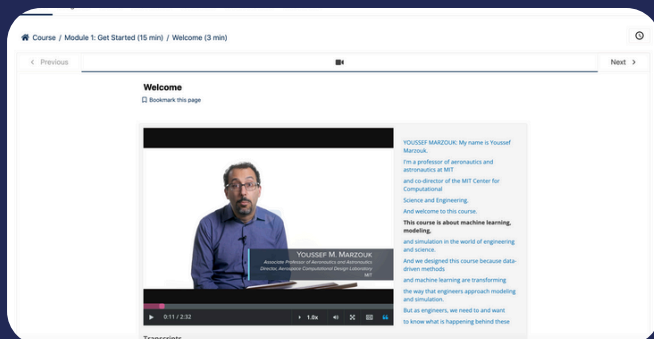
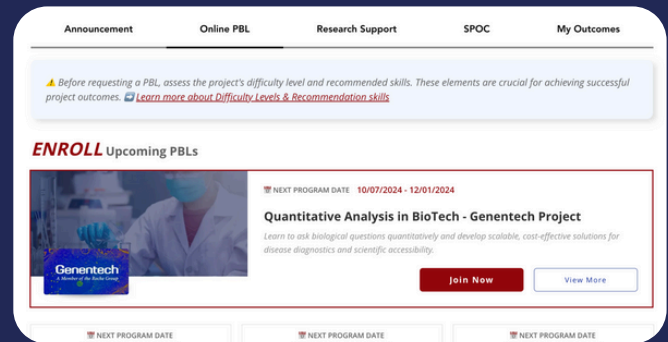
On Your Path To Success

WE ARE COMMITTED TO SUPPORTING YOU AT EVERY STEP.

Blended Learning leverages world-class resources and experiences, empowering each learner to fully explore the program and discover the ideal path tailored to their unique projects, topics, learning styles, and goals.

1 PLAN YOUR JOURNEY

Start your journey by meeting with the academic team and discovering your interests.

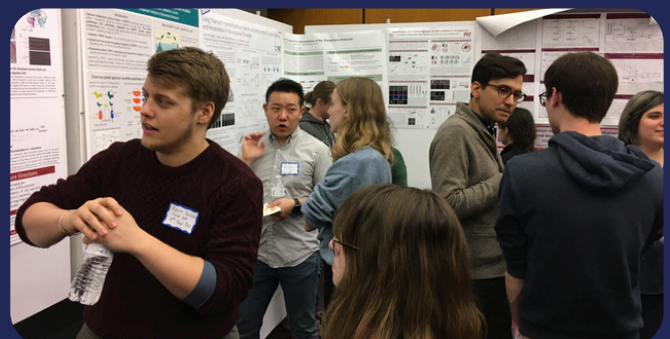


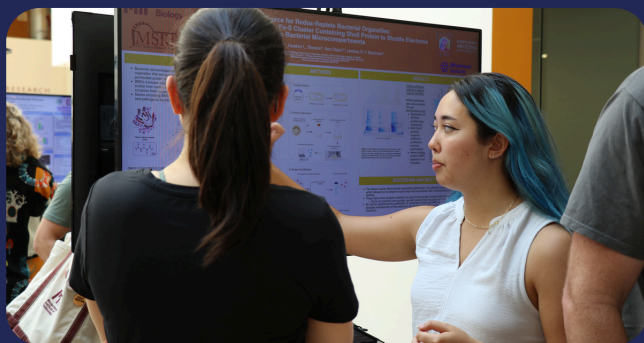
2 ENROLL IN SPOC

Gain access to personalized learning, elite certifications, and expert guidance from top-tier institutions.

3 PARTICIPATE IN PBL

Learn by doing – Engage in real-world cases, solve industry challenges, and build career-ready skills.





4 CONTINUE **YOUR RESEARCH**

Take your research from poster to publication with expert guidance and structured support

5 JOIN US **ON-CAMPUS**

Immerse yourself in an in-person learning experience that fosters collaboration, innovation, and networking.



6 MEET **YOUR GOALS**

Gain valuable credentials, hands-on research experience, and career-boosting opportunities.

Proudly Celebrating Our AI+X Global Talent Community

Blended Learning has brought together thousands of students from across the globe, including the **United States, United Kingdom, China, Japan, South Korea, United Arab Emirates (UAE), Singapore, Canada, Australia, and beyond**, through Blended Learning AI+X Programs.

By partnering with leading companies, organizations, and institutions, we also offer a holistic learning experience that goes beyond academics, integrating meaningful cultural perspectives.

Our unique blend of interactive online education and immersive in-person engagement broadens horizons and creates transformative opportunities.



*Join our
global community of learners!*





Contact Us

COLLABORATION

 partnership@blendedlearn.org

APPLICATION

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[Start Application](#)

*Register for an upcoming information
session online*

