

# PARTNERSHIP OPPORTUNITIES

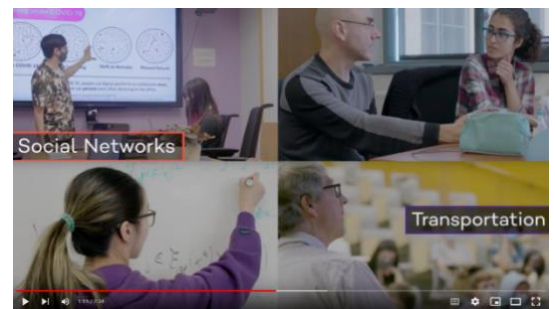
Northwestern | ENGINEERING  
Industrial Engineering and  
Management Sciences  
Northwestern | McCORMICK SCHOOL OF  
ENGINEERING

## ABOUT IEMS

**Industrial engineering is about data-driven discovery, design, and decision making.** Our department conducts internationally recognized research in statistical machine learning, optimization, and stochastics and simulation to support innovations and operations in sectors like health, energy, finance, logistics, and transportation. Our degree programs equip students with skills in data science, analytics, and management science that lead to a wide spectrum of career choices.



“Our department is dedicated to making a real-world impact. We offer several opportunities for companies to collaborate with us. Let’s connect and explore possibilities together!” - [Simge Küçükyavuz](#), Chair of Industrial Engineering and Management Sciences



[Learn More with Our 2 ½ Minute YouTube Video](#)

## WAYS TO ENGAGE WITH IEMS

Here are three programs to engage with us:

- In the Spring (late March), we run the IEMS Undergraduate capstone project, called Client Project Challenge, for our Juniors
- Starting each Fall (late Sept), first- and second-year students in the Masters in Machine Learning and Data Science (MLDS) program participate in a practicum and capstone that focus on machine learning and AI
- As part of the Masters in Engineering Management (MEM), experienced STEM professionals seeking to enhance their management and leadership skills work on class projects that deepen their understanding of traditional and emerging technologies
- In addition, you can sponsor PhDs and research, work with one of our Development Centers or Research Labs, recruit for internships or full-time positions, or be a guest speaker

# IEMS CLIENT PROJECT CHALLENGE



For more information, contact Mike Watson: [m-watson2@northwestern.edu](mailto:m-watson2@northwestern.edu).

See the [YouTube](#) video for examples of the great work our students do and quotes from customers like USP, Lurie Children’s Hospital, and the non-profit QSIDE. Past projects have covered a wide range of projects like transportation, warehouse layout and efficiency, capacity planning, sales team and marketing analytics, reducing manufacturing scrap, IE techniques for IT decisions, and staffing and workforce scheduling.

Here is what one of our clients said: Jacki Van Hout, USG, Sr. Manager, Supply Chain Planning | Logistics, said, “We were impressed with the project output from Angela, Adriana, Aimee, and Melanie. They quickly worked through all the data and USG nomenclature, had a great approach, and completed a thorough analysis within the 10-week window. They were also very articulate in their presentation and thoughtfully answered all our questions.”

# MLDS PRACTICUM AND CAPSTONE PROJECTS



“The Practicum and Capstone projects allow you to work with first and second year master’s students on machine learning and AI projects. Our students are taught all the latest techniques and love the opportunity to apply those skills to your problems.” – Yuri Balasanov, Professor of Instruction, Deputy Director of the Master of Science in Machine Learning and Data Science Program

Sample projects include Retrieval-Augmented Generation (RAG) for knowledge management in organizations, AI-driven fraud detection, medical diagnosis, recommendation and personalization systems, and other machine learning applications.

[Here](#) is what one of our clients said: “In our experience, the Northwestern MLDS students have consistently brought the intellectual curiosity, technical acumen, business maturity, and collaborative approach necessary to solve relatively challenging problems without a guarantee of success and with a very reasonable level of supervision.” – Michael Umlauf, Senior VP, Global Data Science and Analytics, TransUnion

For more information, contact Yuri Balasanov: [yuri.balasanov@northwestern.edu](mailto:yuri.balasanov@northwestern.edu)

# MEM CLASS PROJECTS



“Several of our classes integrate client problems right into the course. This gives you a chance to work with experienced engineers who are learning how to apply leadership and management skills to your problems.” – Mark Werwath, Clinical Full Professor, Director of Master of Engineering Management Program (MEM)

For example, the MEM class “Business Process Change Management” runs projects that account for 40% of the grade. Here we are looking for clients interested in having a team of students document and map a complex process and provide optimization recommendations. The students will interview multiple people in your organization to document a process and understand the KPI's (Key Performance Indicators). The process could be anything from how you ship to customers, make an engineering change, hire, or any other complex process in your organization.

For this class, you can contact Prof. Janice Mejia: [j-mejia@northwestern.edu](mailto:j-mejia@northwestern.edu)

Other class projects include energy, project management, new product introduction, and product lifecycle management.

For more information, contact Mark Werwath: [m-werwath@northwestern.edu](mailto:m-werwath@northwestern.edu)

## IEMS AFFILIATED RESEARCH CENTERS

[Center for Deep Learning](#)

[Science of Networks in Communities \(SONIC\)](#)

[Center for Optimization & Statistical Learning](#)

[Science of Science & Innovation](#)

[Center for Engineering & Health](#)

[Northwestern Institute on Complex Systems](#)

[Center for Engineering Sustainability and Resilience](#) [Transportation Center](#)

Northwestern’s School of Engineering has many other interesting centers.

## OTHER OPPORTUNITIES

There are many other opportunities to work with IEMS or other parts of Northwestern Engineering. This includes sponsored research, recruiting, seminars, or giving talks to classes. Our experienced and dedicated engineers can assist you in developing solutions that work best for your company. See

Corporate Engagement’s Partnership Opportunities for information on Sponsored Research, Recruiting, and other opportunities.