



OPUS
College of Engineering

MARQUETTE UNIVERSITY

Electrical and Computer Engineering

ELEN 4890/EECE 5890 Spring 2022
**Developments in Computing:
Artificial Intelligence for Industrial Applications**



Industrial Remote Monitoring



Battery Aging Estimation



Wind Turbine Fault Detection



Energy Consumption Prediction

- 💡 Define **Industrial AI application scenarios** according to their industrial, analytic, and business functions
- 💡 Identify appropriate solutions based on **Industrial AI case studies**
- 💡 Recognize how industry developers format **Industrial AI code**

💡 **Student Feedback**

- Very flexible course!
- Can learn how to apply ML for industry use!
- Walkthrough, and Explanation for all coding!

👤 **Instructor:**
Dr. Dong Hye Ye, ECE, Marquette University.



COURSE FORMAT

- 📖 Asynchronous Online Lecture created by **Foxconn iAI**
- 📖 Active Discussion and Q&A Forums in D2L led by Instructor
- 📖 Hands-on Coding Lab and Projects with Real Industry Data

PROJECT EXAMPLES

- 💡 **Predictive Maintenance**
 - ⬆ Turbofan Engine Lifetime Estimation
- 💡 **Virtual Metrology**
 - ⬆ Planarization of Semiconductor Wafers
- 💡 **Energy Management**
 - ⬆ Facility Energy Consumption Prediction
- 💡 **Machine Vision**
 - ⬆ Quality Inspection of Steel Components
- 💡 **Scheduling Optimization**
 - ⬆ Flexible Job-shop Scheduling

Or Propose Your Own Topic