OPUS
College of Engineering
MARQUETTE UNIVERSITY
Electrical and Computer Engineering

COEN 4890/EECE 5890 FALL 2021
Developments in Computing:
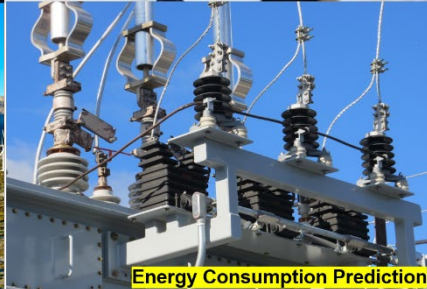**Artificial Intelligence for Industrial Applications**

Industrial Remote Monitoring

Battery Aging Estimation

Wind Turbine Fault Detection

Energy Consumption Prediction

COURSE FORMAT

- **Asynchronous Online Lectures 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

- 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

- Work through the AI problem solving process, including data preprocessing, feature extraction, data modeling and prediction, and data visualization

- Gain valuable insight on common industrial processes including equipment maintenance, virtual metrology, energy management, defect detection, material sorting, and scheduling

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

FOXCONN iAI