The Hong Kong University of Science and Technology

IEDA4000F   Deep Learning for Decision Analytics

Deep Learning for Decision Analytics

IEDA4000F

3 Credits

Prerequisite: IEDA 3560: Predictive Analytics

Name: MEI, Sanyou

Email: symei@ust.hk

Course Description

This course introduces core deep learning techniques for predictive and prescriptive analytics in engineering and business contexts. Students will explore supervised learning with neural network architectures, including feedforward, convolutional, and recurrent neural networks, applied to problems like demand forecasting, resource allocation, and risk assessment. The course emphasizes hands-on experience with TensorFlow and PyTorch, focusing on structured data (numerical and image-based) and theoretical foundations such as optimization and regularization. Practical case studies highlight real-world applications, complementing generative AI techniques covered in other courses.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Homework	40%
Midterm	30%
Final Project	30%

Required Texts and Materials

nil

Additional Resources

Reference:

- Introduction to Machine Learning, Third Edition by Ethem Alpaydin.