Course Syllabus

Course	CISC 7026 Fall 2024
Time	19:00-22:00, Mondays
Location	Room E6-1102C
Description	This course introduces the theory and application of deep neural networks
Instructor	Steven Morad <smorad at um.edu.mo>
Office Hours	11:00-12:00 Mondays and Tuesdays
Teaching Assistants	TBD
Grading	• Assignments: 70% • Quizzes: 20% • Participation: 10%
Late Work Policy	• −25% 0-1 days late • −50% 1-2 days late • −75% 2-3 days late • −100% 3+ days late
Prerequisites	• Linear Algebra • Multivariable Calculus • Programming in Python
Preliminary Lecture Schedule	• Week 1 (08.19): No Lecture (visa issues) • Week 2 (08.26): Introduction to the Course • Week 3 (09.02): Linear Regression (D2L 3.1, 3.6) • Week 4 (09.09): Neural Networks (D2L 5.1, 5.2, 6.1) • Week 5 (09.16): Backpropagation and Optimization (D2L 5.3, 12.1, 12.3-12.5) • Week 6 (09.23): Training Tricks (D2L 4.1, 5.5, 5.6, 6.1-6.3) • Week 7 (09.30): Convolutional Neural Networks (D2L 7) • Week 8 (10.07): Autoencoders and Generative Models • Week 9 (10.14): Recurrent Neural Networks (D2L 9-10) • Week 10 (10.21): Graph Neural Networks • Week 11 (10.28): Attention and Transformers (D2L 11.1-11.7) • Week 12 (11.04): Foundation Models (D2L 11.8-11.9) • Week 13 (11.11): Reinforcement Learning I (D2L 17) • Week 14 (11.18): Reinforcement Learning II
Preliminary Assignment Schedule	• Week 3-4 (09.02 - 09.09): Linear Regression • Week 4-6 (09.09 - 09.23): Neural Networks and Backpropagation • Week 6-8 (09.23 - 10.07): MLP Regression • Week 8-10 (10.07 - 10.21): Convolutional MNIST Classification • Week 10-12 (10.21 - 11.04): LSTM Weather Prediction • Week 12-14 (11.04 - 11.18): Transformer IMDB Sentiment Analysis