FRA 311 Course Syllabus

Lecturer:

Dr. Warasinee Chaisangmongkon (Aj. Jah)
Mr. Bawornsak Sakulkueakulsuk (Aj. Blink)

Meeting Time:

Section A: Tuesday 9.30 am - 12.20 pm FB 304
Section B: Monday 9.30 am - 12.20 pm FB 301

* We will have additional lectures to prepare you for Robotics Studio Project. Please refer to the schedule below.

Grading

Problem Set	25%
Lab	25%
Robotics Studio Reviews	20%
Robotics Studio Final Project	30%

Deliverables	Week	Weight
Robotics Studio Preliminary Design Review	4	5%
Problem Solving Lab Report and Analysis	5	5%
Image Feature Extraction Demo	7	5%
Robotics Studio Critical Design Review	8	5%
Problem Set 1 (Problem Solving)	8	10%
Lab	9	5%
Lab	10	5%
Lab (RS Pre-review)	11	5%
Robotics Studio Final Design Review	11	10%
Problem Set 2 (Classification)	13	7.5%
Robotics Studio Project Presentation	14	30%
Problem Set 3 (Neural Network)	16	7.5%

Schedule

Week 1: 1/9 - 1/10	Introduction	Aj.Jah + Aj.Blink
Robotics Studio: 1/13	Phase 1: Proposal Presentation	
Week 2: 1/16 - 1/17	Problem Solving 1	Aj.Blink
	Problem Solving Lab 1	Aj.Blink
Week 3: 1/23 - 1/24	Problem Solving 2	Aj.Blink
	Problem Solving Lab 2	Aj.Blink

Week 4: 1/30 - 1/31	Problem Solving 3	Aj.Blink
	No Lab	
	Robotics Studio Project Consult Session	
Robotics Studio: 2/3	Phase 2: Preliminary Design Review	
Week 5: 2/6 - 2/7	Intro to Machine Learning	Aj.Blink
	ML Lab 1 (Preprocessing)	
	Turn in: Problem Solving Lab 1-2 Report	
Week 6: 2/10	Classification Technique	Aj.Blink
	ML Lab 2 (Image Classification)	
	Sec A 9.30 - 12.30	
	Sec B 13.30 - 16.30	
Week 7: 2/14 - 2/17	Classification Technique	Aj.Blink
	No Lab	
	Robotics Studio Project Consult Session	
	Sec A on 2/14	
	Sec B on 2/17 (First half of Robotics Studio)	
Pre-midterm: 2/20-2/22	**Turn in:** Robotics Studio Image Classification Demo	
Robotics Studio: 2/24	Phase 3: Critical Design Review	
Midterm 2/23-3/3	**Turn in**: Problem Solving Problem Set Due. 3/3	
Week 8: 3/6 - 3/7	Unsupervised Learning	Aj. Jah
	ML Mini Lab 1 (Clustering)	
Week 9: 3/13 - 3/14	Neural Networks	Aj. Jah
	ML Mini Lab 2 (Neural Network)	
Week 10: 3/20 - 3/21	Probabilistic Learning	Aj. Jah
	ML Lab 3 (Simple probabilistic learning)	
Robotics Studio: 3/24	Phase 4: Structure Review	
Week 11: 3/27 - 3/28	Reinforcement Learning	Aj. Jah
	ML Lab 4 (Simple reinforcement learning)	
Week 12: 4/3 - 4/4	AI Application in Business	Aj. Jah
	Turn in: Neural Network Problem Set Due. 4/3	
Week 13: 4/17 - 4/18	AI Application in Computer Vision	Aj. Jah
Robotics Studio: 4/21	Phase 5: Final Design Review	
Week 14: 4/24 - 4/25	AI Application in Natural Language Processing	Aj. Jah
Week 15: 5/1 - 5/2	AI Application in Gaming	Aj. Blink
	Turn in: Learning Problem Set Due 5/1	
Robotics Studio: 5/5	Phase 6: Final Presentation	
Final		