

FELIX YANWEI WANG

(802)349-7611 | felixwang@u.northwestern.edu

EDUCATION

Northwestern University

Evanston, IL

M.S. Robotics

Expected December 2018

- GPA: 4.0
- Reinforcement Learning, Deep Learning, Dynamics, Robotic Manipulation, Swarm Robotics

Middlebury College

Middlebury, VT

B.A. Physics & Minor in Computer Science

2012 – 2017

- GPA: 3.73
- Fluid Dynamics, Quantum Mechanics, Machine Learning, Computer Vision

EXPERIENCE

Convolutional Neural Network Project

Middlebury, VT

LIV Net for facial feature preference

2017 – Current

- Collected 110 multi-ethnic, consistently lit female faces from the “Ethnic Origins of Beauty” project
- Standardized the 110 original faces and averaged them to create another 76 new faces
- Created a survey app and generated preference data for all image pairs from the face dataset
- Applied transfer learning using pre-trained VGG-Face to process the image pairs to output feature vectors
- Computed distance metric between feature vectors in a pair inspired by Siamese network
- Trained logistic regression and SVM classifiers to predict preference for a feature vector within a pair. The logistic regression model tested with 52% accuracy while SVM tested with 65% accuracy

Deep Reinforcement Learning Project

Evanston, IL

DQN to model active whisking of rat whiskers for shape detection

2018 – Current

- Abstracted the task to optimizing a distance measurement sequence using an outward radially positioned laser array to differentiate triangles and hexagons of 2.5D shape
- Built randomly positioned and oriented shape dataset and a visualization tool for observing the measurement
- Used Keras and TensorFlow backend to train a RNN that can predict shape based on a measurement sequence
- Leveraged the loss from the RNN to approximate confidence of the current guess and the reward of an action
- Trained a deep Q network to optimize the action based on current state to make most relevant measurement

Goldman Sachs & Co

New York, NY

Investment Management Division, Fixed Income Analyst

Summer 2014, Summer 2015

- Analyzed impact of sector allocation biases on 12 core fixed income managers’ performance using 10 years of quarterly return and sector weight, and found 50 bps hidden beta by constructing a customized benchmark
- Created a tool in Excel that compares GSAM historical performance relative to peers in the last 7 years and made heat maps of data sheets, which together boosted efficiency and saved each meeting for about 5 min
- Identified top-down and bottom-up investment styles of managers through performance correlations with sector performance, which improved the risk resistance of GSAM portfolio of third party managers by 10%

Robot Competition, National University of Singapore

Singapore

Hardware Design

2011 – 2012

- Built a Lego robot to compete in a robot arena fight using innovative enhancement. Specifically, we enabled our robot to spray soap water that made the floor slippery and wrapped the tire of our robot with tissue paper to increase friction. This hack worked well and won us 1st place.
- Designed, assembled, and programed a differential drive robot that could automatically trace a line and find its way out of a maze

SKILLS AND ACTIVITIES

Computer Skills: Python, C++

Language Skills: Native Chinese, Fluent English

Activities & Leadership:

- **Middlebury College Mountaineering Club Canoeing Guide:** led a three-day-orientation canoeing trip along the Raquette river in the Adirondacks. Reacted to a wind storm and avoided capsizing of the crew
- **Middlebury College Theatre Faculty Production:** acted as a lead fairy in *Midsummer Night’s Dream*, whose choreography to mimic a squirrel was praised and won me a role in another faculty production