

Daniel Fan

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Objective

Looking for Machine Learning Engineer/Data Scientist/Software Engineer (Python) position.

Education

Udacity , Machine Learning Engineer Nanodegree	Jul' 17
Binghamton University, State University of New York, USA	
Master of Science in Electrical and Computer Engineering, GPA:3.9 - Eta Kappa Nu	May' 17
University of Auckland, New Zealand , Master of Engineering in Electrical and Electronics Engineering	May' 14
University of Auckland, New Zealand , Bachelor of Engineering in Electrical and Electronics Engineering	Apr' 12

Technical Skills

Machine learning: Neural Networks, Reinforcement Learning, Deep Learning, Optimization, Classification, Regression, Clustering

Programming Languages: Python (strong), SQL, TensorFlow, SciKitLearn, PANDAS, NumPy, MATLAB (strong), C (basic), R (basic)

Language: Strong written and oral skills in English and fluent in spoken Mandarin.

Projects

Classify cancer with cytological data	May'17-Jun' 17
• Built a decision tree classifier in Python to predict whether biopsied cells are malignant or benign with 97% accuracy.	
Classify images using Deep Neural Networks	Apr'17-May' 17
• Constructed a deep neural network using the TensorFlow framework to classify the CIFAR-10 data set.	
Train a Smartcab to Drive with Reinforcement Learning	Mar'17-Apr' 17
• Designed a Q-learning algorithm in Python that trained a simulated car to follow US traffic rules.	
• Implemented learning rule to take effect within 28 trials with reliability of over 80%.	
Creating Customer Segments with Unsupervised Learning	Feb'17-Mar' 17
• Investigated unstructured data for patterns and the categories they fall into using Principal Component Analysis (PCA).	
• Applied an gaussian mixture model using SciKitLearn in Python on inventory order data of current customers to predict the behaviour of future customer habits.	
Finding Donors for CharityML with Supervised Learning	Jan'17-Feb' 17
• Constructed Support Vector, Naïve Bayes and Decision Tree classifiers to identify likely charity donors from census data in Python.	
• Optimized the decision tree classifier to obtain an accuracy of 84% using only 5 features.	
Evolution of Echo State Networks - Master Project	Aug' 15-May' 17
• Investigated Echo State Networks' (ESN) abilities to predict time-series data of varying complexity.	
• Identified the effects of neural network size, level of connectivity, and spectral radius on network performance.	
• Developed MATLAB algorithms to evolve the ESN through the implementation of anti-Oja neural plasticity rules.	
• Designed novel algorithms in MATLAB for the selective update of neuron connections in ESNs based on perceived neuron importance from a pre-training phase.	
Comparison of Vocal Tract Shape Modelling Methods - MRI vs AR - Master Thesis	Mar' 12-Feb' 13
• Reconstructed 2D images obtained from magnetic resonance imaging into 3D structural data.	
• Created MATLAB graphical user interface to import vocal tract structural data and perform principal component analysis to extract principal resonance frequencies unique to the structure.	
• Analysed difference between 3D structural features obtained from magnetic resonance imaging and acoustic reflectometry.	

Experience

Teaching Assistant, Engineering Design Division - SUNY Binghamton	Aug' 15-May' 17
• Troubleshooted student Arduino projects and instructed the construction of corresponding circuits.	
• Instructed students in coding concepts in using MATLAB.	
English Teacher, Cramschool - Taiwan	Jun' 14-Aug' 14, Jun' 15-Aug' 15
• Lead conversational English discussions.	
• Organised practice events for Taiwanese students to speak with native English speakers.	
Research Assistant, Center for Condensed Matter Sciences - National Taiwan University	Dec' 10-Feb' 11
• Conducted experiments on electrical conductivity of nano-films at low temperatures in a vacuum.	
Assistant Engineer, Jorjin Technologies Inc. - Taiwan	Dec' 09-Feb' 10
• Constructed prototypes with surface mount components (WIFI, Bluetooth, ZIGBEE modules) using soldering tools.	
• Operated environment chamber for reliability testing of wireless modules at high/low temperatures and humidity.	

Other Experiences

President, Taiwanese Student Association at Binghamton	Aug' 15-Aug' 16
• Planned student events and information sessions for Taiwanese students at start/end of each semester.	
• Assisted new Taiwanese students in settling in at Bingham University.	