SI KAI LEE

github.com/atechnicolorskye

500 E 63rd St Apt 2A
New York, NY 10065

a_technicolor_skye@hotmail.com
+1 (217) 721 0397

EDUCATION

Columbia University Graduated in Dec 2016 | New York, NY

Master of Science in Computer Science. Machine Learning Track. GPA 3.65/4.0

University of Southampton Graduated in Jul 2014 | Southampton, UK

Dean's Award for Best Final Year BEng Student
First Class Honours Bachelor of Engineering in Aeronautics and Astronautics. GPA 3.91/4.0

EMPLOYMENT

Analytics Intern | The Fin Exploration Company Jun - Jul 2016 | San Francisco, CA

Part of the analytics team working on converting user data into actionable insights. Built data pipelines and dashboards on Periscope and local servers and aided in the migration to Amazon Redshift. Applied machine learning algorithms such as Naives Bayes SVM, TF-IDF and Topic Models in conjunction with packages such as Scikit-Learn, SpaCy and Vowpal Wabbit to predict user sentiment and behaviour. Gave a presentation on Natural Language Processing representations and machine learning techniques.

Research Intern | Singapore University of Technology and Design Feb - Aug 2015 | Singapore, SG

Developed the data pipeline for the statistical natural language processing research of Assistant Professor Wei Lu. Worked on cleaning data, experimenting with clustering algorithms, implementing parsers and vectorisers etc.

Research Intern | Vestas Technology R&D Mar - May 2011 | Singapore, SG

Tasked to find suitable connectors for a new PCB control panel for future wind turbines. Communicated with distributors to obtain samples and provided an in-depth cost-benefit analysis of the different connectors. Demonstrated problem-solving skills by devising different wiring configuration for different connectors and prepared a report on the viability of different connectors for different parts of the panel.

PROJECTS

Extending Variational Autoencoders | Graduate Research, Columbia Sep 2016 - Now | New York, NY

Exploring the potential of using Variational Autoencoders to learn font manifolds to produce handwriting with John Cunningham. In progress

Scalable Detection of Overlapping Communities | Graduate Research, Columbia Jan - May 2016 | New York, NY

Worked on extending the Assortative Mixed Membership Stochastic Blockmodel to include attribute information on top of network information. Extended model to be used to detect communities in the Enron email dataset and breast cancer protein network dataset through the use of variational inference.

Machine Learning Coursework | Columbia Jan - Dec 2016 | New York, NY

Implemented Perceptron, AdaBoost with Decision Stumps, Expectation Maximisation with Histogram Clustering in R and Principal Component Analysis for patches and whole images for Statistical Machine Learning. Multilayer Perceptron and Convolutional, Recurrent Neural Networks as well as the All-Convolutional Net in Theano for Neural Networks and Deep Learning. Working on showing that no spurious local minima exist in a three- layer neural network for Advanced Machine Learning and hierarchical image segmentation for Foundations of Graphical Models.

Joint Semantic Parsing with Relaxed Hybrid Trees | Research Internship Jun - Aug 2015 | Singapore, SG

Aided the development of the extension of Assistant Professor Wei Lu's discriminative Relaxed Hybrid Trees model. By parsing semantically-similar or equivalent texts jointly with Relaxed Hybrid Trees, the extended model would be better able to disambiguate the semantics of the input sentence using additional information from bilingual and long-range associations to produce more accurate semantic representations.

Design of a Stratospheric UAV Flight Simulator | Bachelor's Thesis Oct 2013 - Apr 2014 | Southampton, UK

Designed and implemented a simulator for unpowered unmanned aerial vehicles (UAVs) gliding from the stratosphere back to a desired location. Used real-time weather data National Oceanic and Atmospheric Administration data for the simulations and demonstrated that such UAVs could replace radiosondes as they would vary likely return to their launch points with altitude to spare.

RELEVANT COURSEWORK

Analysis of Algorithms	Computational Learning Theory	Probability and Statistical Inference
Introduction to Databases	Neural Networks and Deep Learning	Statistical Machine Learning
Advanced Machine Learning	Bayesian Models for Machine Learning	Foundations of Graphical Models

PRESENTATIONS

Columbia Machine Learning Reading Group - Generative Adversarial Networks.
The Fin Exploration Company - A Primer on Natural Language Processing.

SKILLS

Programming Languages: Python, R and Matlab. Some C++, Java and Prolog.
Database: Postgres, MySQL.
Web Development: Django, Flask.
General: Amazon Web Services, Microsoft Azure, Unix.

MISC.

Attended Machine Learning Summer School Kyoto 2015 and Machine Learning Summer School Arequipa 2016.
Part of the Columbia Machine Learning Reading Group and the Columbia Advanced Machine Learning Seminar.

EXTRACURRICULAR ACTIVITIES

Resident Floor Fellow | International House Jan - May 2016 | New York, NY

Israel Innovation Delegation | Columbia School of International and Public Affairs Jan 2016 | Israel, IL

Attended lectures by speakers on the Israel and Palestine startup and innovation scene, the Israeli-Palestine conflict and Israeli politics.

Runner-Up | Southampton Start-Up Weekend Mar 2014 | Southampton, UK

Built a web application that tracks and predicts gym usage.

Webmaster | Southampton University Mountaineering Club 2012 - 2014 | Southampton, UK

Chairman | Kreta Ayer Lions Befrienders Club 2010-2011 | Singapore, SG

Led and worked with volunteers to organise and plan activities for the aged living alone in the Banda 3 zone. Checked on every registered elderly weekly to ensure their well-being.

Intelligence Assistant | Singapore Armed Forces 2009-2010 | Singapore, SG

Worked within open-source intelligence. Wrote daily and weekly reports on current affairs relevant to Singapore.