**Kuan-Liang Liu**

kuanliang.github.io

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**Technical Skills**

**Programming languages:** Python, Perl, R, visual basic, HTML, Javascript

**Framework/Libraries:** Spark, SparkSQL, SparkMLlib, Numpy, Pandas, scikit-learn, Matplotlib, Bokeh, D3, sickit-flow, Tensorflow, HIVE, MapReduce, HDFS, Flask

**Databases:** mysql, sqlite, mongodb, Hbase, Cassendra

**Others:** Git/Github, deep learning, CUDA

**Projects Experience**

**Return Product Prediction –** [github.com/kuanliang/return-board](http://github.com/kuanliang/return-board) *March 2016*

* + - * Develop algorithms for return product prediction and prescription analysis with scikit-learn
      * Design and implement modeling and deployment pipeline with Spark, Flask, Sqlite
      * Optimize data pipeline efficiency via SparkSQL, SparkMLlib and python comprehension
      * Improve prediction precision and stability via ensemble learning algorithms

**Traffic Gap Prediction –** [github.com/kuanliang/traffic\_gap](https://github.com/kuanliang/traffic_gap)  *June 2016*

* + - * Design machine learning algorithms for time series data with Pandas and scikit-learn

**Multinomial rRNA Bayesian classifier –** [sourceforge.net/p/gdrrnaclassifie/wiki/Home](https://sourceforge.net/p/gdrrnaclassifie/wiki/Home)*December 2014*

* Improve accuracy of naïve Bayesian classifier for taxonomic assignment by incorporating multinomial models and Generalized Dirichlet priors.
* Benchmark classifier performance on microbial and fungal rRNA sequences with different lengths

**Fungal LSU/ITS classifier -** [rdp.cme.msu.edu/classifier/classifier.jsp](https://rdp.cme.msu.edu/classifier/classifier.jsp) *December 2013*

**Visualization of 16S rRNA taxonomy assignment -** [mg.bio.titech.ac.jp/vitcomic/](http://mg.bio.titech.ac.jp/vitcomic/) *July 2011*

**REVT - rRNA Experimental Validation Test/Tool** *November 2011*

**Professional Experience**

**Foxconn Precision –** Data Scientist China | *August 2015~Now*

* + - * Design and implement machine learning predictive models for return products
      * Design and conduct Big Data, machine learning training courses for engineers

**Georgia International –** Software Engineer **Taiwan |** *September 2010~August 2015*

* + - Build the audit process information system, Design and build up company website
    - Audit customers according to ISO 9001, TS 16949 and customer requirements
    - Create new CE marking service and signed 10 newly developed consulting deals

**TokyoTech University** – Visiting Scholar **Tokyo |** *July 2010~September 2010*

* + - Develop visualization tools for 16S rRNA taxonomy assignment results comparison

**Los Alamos National Laboratory** – Graduate Research Assistant USA | *October 2008~December 2010*

* + - Design machine learning algorithms for metagenomic read assignment
    - Design classifier for fungal ITS/LSU rRNA sequence taxonomic assignment
    - Analytics and build up data analysis pipeline for human oral microbiome projects

**Education**

**Udacity** - Machine Learning Engineer Nanodegree *October 2016*

**Coursera** - Machine Learning Specialist / Processing mining – Data Science in action *May 2015*

**Edx** - Big Data / Data Science and Engineering with Apache Spark XSeries *August 2015*

**MIT Professional Education -** Tackling the Challenge of Big Data *August 2015*

**National Cheng Kung University** - Information Management, M.S., Ph.D. *December 2014*

**National Cheng Kung University** - Industrial and Information Management, B.S. *June 2005*

**Awards, Honors, Scholarship**

* + - * Acceptance for STAMPS workshop at Marine Biology Laboratory USA *December 2014*
      * Scholarship for Japan Summer Program at TokyoTech University  *July 2011*
      * The winner of ISME (International Symposium of Microbial Ecology) travel grant *July 2010*
      * The winner of HMRC (Human Microbiome Research Conference) travel grant *May 2010*
      * Scholarship for Pittsburgh Science of Learning Center summer school