

# Lian Chee Loong

## DATA SCIENTIST ASSOCIATE

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### Technicals

**Programming & Markup Language;** Python / Rstudio, LaTeX, Markdown, PostgreSQL, HTML5, CSS  
**Machine Learning & Deep Learning;** fast.ai, pytorch, numpy, scikit-learn, pandas, matplotlib, seaborn  
**Cloud & Deployment;** Google Colab, GCP  
**Version Control / Blog;** GitHub, GitHub.io, Atom

### Projects

I have started sharing my projects on my blog this year, visit <https://cheeloong.github.io/> to learn more about me or my other projects, here's a few!

### Vision Applications

#### Kaggle 2017: Planet Amazon Satellite Classifier with ResNet50 CNN

- Image classification modelling to label satellite image chips (Multi-labeled classification)
- Data Import using Kaggle API, pre-processing involving data augmentation and normalization, transfer learning using ImageNet, fine tuning model; freeze/unfreeze model training
- Attains 93.1% Validation F2 score (Late submission result: top 6% on Kaggle's private leaderboard)

#### Oxford Pets Dataset Image Restoration with GAN & Perceptual Loss CNN

- Feed low-res images as inputs and generate higher-res images as outputs
- Built pre-trained ResNet34 encoder U-Net, pre-trained Critics, Generative Adversarial Network (GAN), and perceptual loss CNN for super-resolution
- Model performance is evaluated on the picture quality generated by the model, validation accuracy is irrelevant.

### Text Application

#### IMDb Movie Reviews Sentiment Analysis

- Identifying viewers' sentiment about a movie (good/bad) using a subset of user reviews and movies IMDb dataset
- Text pre-processing involving tokenization and numericalization
- Pre-train source Language Model (ASGD Weight-Dropped LSTM)
- Built target Language Model (IMDb LM) and fine tuning after
- Attains 91.8% Validation Accuracy (Improvable with better GPU)

### Tabular Application

#### Kaggle 2015: Rossmann dataset

- Forecast "Sales" for Germany's second largest drug store chain with given train set
- Importing original data & external datas uploaded by other Kagglers
- Feature Engineering / Data Cleaning: Joining different dataframes, string splitting on dataframes, extracting data fields, dealing with missing values, creating durations between data intervals
- Applying fast.ai preprocessors like `Categorify`, `FillMissing` and `Normalize`
- Applying Dropout Regularization (subclassing from PyTorch) and Batch Normalization
- Attains 12.04% Validation Loss (Late submission result: Top 27% on Kaggle's private leaderboard)

## Qualifications

- Experience in predictive analytics, machine learning, sentiment analysis, recommender system, neural networks, deep learning using both traditional machine learning algorithms (e.g. logistic regression, random forest, k-means, support vector machine, etc) and deep learning models (CNN, RNN, GAN, Perceptual Loss, etc)
- Understanding on feature engineering, transformations, selection, and fine-tuning
- SQL based query writing and data manipulation (notably PostgreSQL with PgAdminIII)
- Experience with cloud service provider such as Google Colab and GCP and using its web IDEs
- Built variety of deep learning models on different analytical applications and demonstrated analytical skills, presentation skills, critical thinking and problem solving skills
- Exhibited ability to adapt and learn (e.g. self-learning OOP with Python, applying deep learning models to solve different analytic cases, and building a website portfolio)
- Ability to translate technical aspects of projects into business language for stakeholders.
- Passion for start-up and industries related to user analytics.

## Work Exp.

### 03-06 '18 Ernst & Young Advisory Services

Data Scientist Associate

Identified, measured, and designed storyboard of business intelligence's KPI improvement strategies across all business area and built a live and interactive demo dashboard with SAP Lumira Discover 2.0

Organized and readied data warehouse architecture and BI implementation roadmap for submission to EY Brightree

Arranged meetings for Senior Managers and Executive Directors and coordinated resources for use by all attendees

### 01-04 '17 Crave Asia Creative Agency

Digital Analyst

01-12 '16 Identified and developed success metrics and tracking metrics on digital campaign microsite

Worked closely with all creative development departments to create and maintain creative materials for social media adverts and digital campaign microsite

Responsible to write Digital Post-Campaign reports for submission to creative director/client

A/B Testing on adverts on ad viewers of the same demographics/interests to evaluate ad performance to achieve lower cost per audience reach

## Education

### '12-'15 Bachelor of Commerce | Dual Majors; Econometrics & Finance

Monash University Sunway & Clayton

Specialization in Econometrics & Finance (Sunway Campus) for 1.5 years, overall WAM 77.0%.

Specialization in Econometrics & Finance (Clayton Campus) for 2 years, overall WAM 68.5%.

### '11 Australian Matriculation | Pre-University

Sunway University College

Studied Math 3A/3B, 3C/3D, Economics, ESLR, Accounting & Finance, Business Management & Enterprise.

Overall ATAR Score: 77.25%

### '05-'10 Sijil Pelajaran Malaysia (SPM)

SMJK Confucian

6A's, 3B's, 1119 GCE-O English: 1A