

Ming-Ruey(Ray) Chou

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SKILLS

Programming Python: Linux - IDE & Virtualenv/Docker, Windows - Anaconda, Java, IDL, Labview

Machine Learning TensorFlow, Keras, Scikit-Learn, Pandas, Lightgbm

Visualization Matplotlib, Seaborn; OriginLab

Database SQL & MySQL

Language Mandarin: Native; English: Fluent

PROJECTS

Top 16% **Kaggle - iMaterialist Challenge(Fashion) at FGVC5**

Image Classification

- Wrote multi-thread to speed up processing over one million images
- Transfer learning for standard CNNs with Keras
- Applied GrabCut and spectral saliency detection to segment background/foreground for preprocessing

Top 27% **Kaggle - Avito Demand Prediction Challenge**

Demand Predicting

- Data preprocessing with Pandas over one million data
- Used LightGBM as main GBDT model
- Tackled the task with iterative process of EDA, using observation from EDA to improve the model

Top 19% **Kaggle - Google AI Open Images - Object Detection Track**

Object Detection

- Use currently largest dataset – Open Images Dataset V4
- Packed data into highly efficient TFRecord format
- Utilized TensorFlow object detection API to do transfer learning on Faster-RCNN architecture.

Top 21% **Kaggle - RSNA Pneumonia Detection Challenge**

Pneumonia Detection

- Built Unet and Faster-RCNN from scratch with TensorFlow
- Automated training with TensorFlow Estimator API
- Applied data augmentation including half-splitting, rotating, and flipping.

T-Brain AI- Taiwan ETF Price Prediction

Time Series Prediction

Use ARIMA to predict the time series of ETF prices. Also experient with traditional technical indicators like RSI, stochastic oscillator, %R, Chaikin oscillator, CCI .etc as features for a random forest classifier.

EDUCATION

2016 **M.S. in Physics**, *Department of Physics*, National Taiwan University.

2013 **B.S. in Physics**, *Department of Physics*, National Taiwan University.

Course Work – Coursera :

- Algorithms 4E, Robert Sedgewick and Kevin Wayne; Princeton
- Machine Learning Foundations, Hsuan-Tien Lin; NTU
- Machine Learning, Andrew Ng; Stanford
- Introduction to SQL, Charles Severance; Michigan
- SQL for Data Science, Sadie St. Lawrence; UC Davis

WRITING

M.S. Thesis **Rheometry on Concentrated Suspension of Soft Particles**
(In Mandarin) www.phys.sinica.edu.tw/jctsai/Ray2016/

OTHER EXPERIENCE

JAN, 18 ; JUL, 18 **Twin Oaks Education**, *Course Design and Project Mentor*, www.twinoaks-edu.com/.

2017 **Substitutue Services in Education**, *Xinyi Elementary School*, Hualien, Taiwan.