Chengyi (Jeff) Chen

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EDUCATION

University of Southern California (USC) **Los Angeles, California**

Bachelor of Science in Computer Science Business Administration December 2020

- **GPA:** 3.94 / 4.0; SAT: 1550

Udacity Data Scientist Online Nanodegree Program January 2019 – August 2019

- Completed projects ranging from building Recommendation Systems using Matrix Factorization techniques (Singular Value Decomposition) for Collaborative Filtering to predicting Customer Churn with the Pyspark API.
- Link to Certificate: https://graduation.udacity.com/confirm/2LGCCKNA
- Link to Projects: https://jeffchenchengyi.github.io/portfolio/udacity/README.html

PROJECTS

Exploring Housing Prices in Singapore May 2019 – Present

- Scraped www.99.co (Singapore Property Portal) for property features and transaction history using BeautifulSoup.

Performed Clustering (K-means) and Regression (Random Forest) analysis on the data, followed by a brief exploration of the most popular condominiums in Singapore using the CRoss Industry Standard Process for Data Mining, or CRISP-DM.

- Link: https://jeffchenchengyi.github.io/portfolio/udacity/04-exploring-condos-sg/exploring-house-prices-singapore-part-3-crispdm-non-technical.html

Text Recognition Research [Center for Artificial Intelligence Society Student Branch (CAIS++)] January 2019 – Present

- Worked with the Spatial Analysis Lab (SLAB) at USC Sol Price School of Public Policy to use Google Street View Panoramic images to better understand the demographic of store owners in Los Angeles.
- Built a deep learning pipeline that classifies whether a panoramic image contains a specific store sign (Signs with the word "liquor") and the location of the sign if it exists.
- Pipeline: Panoramic Image → Sliding Window Cropped Images → One-Shot Object Detection Algorithm (You Only Look Once) → Binary CNN classifier + Transfer Learning from Res-Net
- Final Metrics: Accuracy - 68.0% | Recall: 84.0% | Precision: 63.6% | Sample Size: 100 Panoramic Images
- Link: https://github.com/usc-caisplusplus/SLAB

Education Deserts Research [CSCI499: Artificial Intelligence for Social Good] January 2019 – May 2019

- Used US Census data (Tract level), Geospatial data (Shape files for US States), and university coordinates to find education deserts (tracts with no universities within a 25 mile radius).
- Used random subsampling to balance dataset used for building education desert classifier and performed recursive feature elimination to discern important features of an education desert (Population Density / square mile, Median Gross Rent, …).
- Provided visualization of university locations chosen using submodular optimization to maximize average salary gain, total salary gain, number of newly added college graduates, and total population.
- Link: https://github.com/lucashu1/education-deserts

WORK & LEADERSHIP EXPERIENCE

Fastbee.sg **Singapore, Singapore**

Solutions Architect Intern, Technology April 2017 – August 2017

- Developed web applications from scratch to assist in time sensitive operations and pioneered systems that enabled Fastbee.sg's expansion to 5 new business parks
  - Operation Maps System
    - Decreased frequency of late deliveries from ~ 11/month to ~ 1/month by providing logistics with a daily list of food vendors, location details, and quantity of each food item to be purchased in a webpage UI (Bootstrap & PHP), eliminating delivery delays and inaccurate in food orders.
  - Automated food order SMS
    - Decreased time taken to notify food vendors of orders from ~ 20min/location to ~ 3min/location by implementing a script in Java that send food orders automatically to the food vendors using the Selenium and Nexmo API.
  - Electronic Hawker Ledger
    - Drastically decreased the time taken to account for food vendor transactions from ~ 16hr/week to ~ 0hr/week through keeping a synchronised, running balance of all transactions between Fastbee.sg and food vendors using Woocommerce, Parse Database API, PHP, Javascript, Node.js (For the development of RESTful web services).

SKILLS

Technical Skills: Python (Sklearn, Scipy, Numpy, Matplotlib, PyTorch, PySpark, Tensorflow), SQL