Yi-Li Chen (Leo)

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EDUCATION

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

Masters in Industrial and Systems Engineering, Analytics *Aug 2019 – May 2021(Expected)*

- *Relevant Coursework: Machine Learning for Data Science, Data Management, Data Mining, Text Analytics, Integrative Analytics, Predictive Analytics, Optimization Methods for Analytics*

National Central University (NCU) **Taoyuan, Taiwan**

Masters in Mechanical Engineering *Sept 2017 – Nov 2018*

PROFESSIONAL SKILLS

Computer Skills: Microsoft Office, R Studio, Tableau, pgAdmin, PSequel, PostgreSQL, Git, React, NodeJS

Coding Languages: C++, Python, R, SQL, JavaScript

Data Science: Python (Scikit Learn, Numpy, Scipy, Pandas, Regex, Matplotlib), ETL, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Hypothesis Testing, A/B Testing,

PROJECTS/ PUBLICATIONS

- **Intelligent sensor for EDM(C++)** Sept 2017 – Oct 2018
  - Developed a capacitive sensing system to measure the concentration of particles in dielectric fluid
  - The accuracy of average capacitance variance can be 0.55pF for per $1cm^3$/100ml particles
- **A linked knowledge base of crime data (Python, pgAdmin, PostgreSQL)** Fall 2019
  - Analyzed the crime dataset of LA to visualize integrated results to solve different specific problems
  - Cleaned and visualized over 2 million entries of the data by using pandas/matplotlib libraries in Python
  - Used ISI's T2WML to extend Wikidata and create a linked Knowledge Base for Crime Data
- **Recipe recommendation system (Python, Web scraping)** Spring 2020
  - Built a recipe recommendation system that can help users to customize the meal by desired preference
  - Scraped thousands of recipes and reviews from the website with Selenium and BS4.
  - Modeled an optimization problem for meal planning system with Pyomo library after collaborative filtering
  - Recommend an optimized weekly meal plan with 90% level of satisfaction
- **NLP-based recommender system (Python, NLTK, TextBlob, Hypothesis Testing)** Fall 2020
  - Applied LDA topic modeling for content-based filtering and GMM with FastMap for clustering
  - Sentiment analysis and matrix completion are used on the scraped comments from YouTube to build matrix
  - Incorporated the analysis result of transcripts and comments into Knowledge Graph with Neo4j
  - Accuracy is about 70%, higher than the classic collaborative filtering by some 6%
- **Airbnb data mining (R)** Fall 2020
  - Take the crime data into consideration and recommend the housing location for leasing
  - Analyzed, visualized and modeled the data by using tidyverse/ggplot/ggmap/rpart libraries in R
  - The accuracy of predicting the price of Airbnb clustering is greater than 85%
- **Facial recognition website (JavaScript, React, NodeJS, PSequel, PostgreSQL)** Fall 2020
  - Developed a full-stack web app across various platforms with Flexbox
  - Applied API key to Clarifai Models and do facial recognition on the front-end
  - Set up the server and incorporated API calls and stored user data in PostgreSQL on backend database
- **Hospital Performance Analysis and Visualization (Python, Tableau)** Spring 2021
  - Analyzed and visualized the real-world data from USC Keck hospital with Python and Tableau
  - Created reporting visualizations that included objective statements and targets in Tableau Public

WORK EXPERIENCE

Academia Sinica (Research Center for Information Technology Innovation) **Taipei, Taiwan**

Research Assistant Apr 2019 – Jul 2019

- Preprocessed the data from noisy wireless signal by data cleaning, integration and transformation
- Provided quantitative, visual explanations and critical features for the DNN learning process
- Utilized dimensionality reduction to project the high-dimensional feature space to the 2D space for visualization

LEADERSHIP & EXTRACURRICULUM

Capstone Project Case Competition **Taipei, Taiwan/ Higashi-Hiroshima Japan**

Representative Sept 2016 – Jul 2017

- Designed a wearable voice-activated bionic hand with Arduino board and Bluetooth module in C++
- On behalf of the department to make a presentation at Hiroshima University in Japan