

## Kaiwen Liu

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### EDUCATION

#### **The Ohio State University, Columbus, Ohio**

Master of Computer Science and Engineering

Dec 2019

GPA:3.50

#### **National Cheng Kung University, Tainan, Taiwan**

Bachelor of Science in Engineering Science

June 2016

GPA:3.48

(Combination of Electrical Engineering, Mechanical Engineering and Computer Science concepts)

### EXPERIENCE

#### **Data Analytics Summer Internship – Coca-Cola**

May 2019 – August 2019

- Designed a program in Python and run on AWS platform to generate an optimal solution considering current inventory.
- Saved the juice blend coordinator at least two hours per week.
- Analyzed an investment result by utilizing Tableau, wrote a profitability report, and helped Coca-Cola save \$400k annually.

#### **Student Assistant – Ohio State University Library**

Sep 2019 – Present

- Maintained and organized the department website; coded in HTML, PHP, SQL, and JavaScript.
- Harvested required information online and uploaded the data to the department website.

### SELECTED PROJECTS

#### **Data Visualization Project – DATA.GOV, Department of Transportation**

August 2018 – Dec 2018

- Analyzed flight delay performance and preprocessed the preliminary dataset to implement the user GUI.
- Coded in Javascript, HTML, and Python.
- Visualized flight performance with bar charts and pie charts.

#### **Data Visualization Project – 2018 IEEE SciVis Contest**

August 2018 – Dec 2018

- Analyzed and Visualized the impact of deep water asteroid.
- Coded in Python with VTK and implemented the Paraview application.
- Detected asteroid exploding events and movement by utilizing statistics methods.

#### **Predicting Red Hat Business Value – Kaggle, Red Hat**

June 2018 – July 2018

- Built Neural Network, Decision Tree, and Random Forest models to predict clients' potential business value.
- Analyzed and preprocessed the preliminary dataset.
- Coded in Python with sklearn, numpy, pandas and matplotlib packages.
- Evaluated the models with Cross-Validation method and reached 0.9993 area under the ROC curve score.

#### **Data Mining Project – Kaggle, 2018 Data Science Bowl**

January 2018 – May 2018

- Implemented simple CNN (Convolutional Neural Network) and U-Net Convolutional Network to detect nucleus in microscope images.
- Normalized the images and masks of different sizes and RGB values and visualized the correlation of attributes.
- Coded in Python with sklearn, numpy, pandas and matplotlib packages.
- Clustered train set images into 4 clusters based on intensity distribution and built separate models for these clusters.
- Converted the predicted result into a RLE (Run-length encoding) file.
- Evaluated the model on the mean average precision at the different intersection over union (IoU) thresholds and reached 0.460 score.

#### **Artificial Intelligence II Project – Kaggle, Expedia**

August 2017 – December 2017

- Implemented KNN, neural network method with data Expedia posted on Kaggle to predict clients' next interested hotel destination.
- Coded in Python and delivered the presentation as a code developer.
- Compared the accuracy of KNN and neural network with various K values and the number of hidden layers.

### LEADERSHIP & HONOR

#### **AI Club Member – Ohio State University**

December 2017 – Present

- Attended workshops about AWS (Amazon Web Service), SciKit and Pytorch.
- Audited speeches about Google DeepDream, Computer Vision, and Quantitative Trading.

#### **2015 National Campus Cloud Innovation Application Competition – National Cheng Kung University**

September 2014 – January 2015

- Designed an android application to assist people to search the nearest AED (Automated External Defibrillator).
- Coded in HTML, CSS and JavaScript; received honorable mention.

#### **Coordinator of Home-Visiting – Medical Service Club – National Cheng Kung University**

July 2013 – June 2014

- Initiated more than 30 activities for club members.
- Collaborated with the mayor of Tainan City.
- Raised \$9500 from Global Youth Service Day, Taiwan.

### QUALIFICATIONS

- Programming experience: C, C++, Python, R, MATLAB, SQL, PHP, Javascript, and HTML.
- Proficient in Microsoft Excel, Microsoft Word, Microsoft PowerPoint, Tensorflow, D3, and WebGL.
- Experience in Tableau, AWS (Amazon Web Service), Agile methodology.
- Relevant courses: Artificial Intelligence, Data Mining, Data Visualization, Database System, Advanced Algorithm, Parallel Computing, Numerical Method, Introduction to Neural Network, Intermediate Data Analysis.