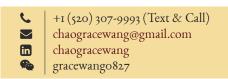
# Grace Wang

US Permanent Resident





#### **EDUCATION**

The University of Arizona

2014 - 2021(exp.)

Ph.D. in Economics (GPA: 3.9/4.0) Georgia Institute of Technology

2020 - 2022 (exp.)

M.S. in Computer Science, Specialization in Machine Learning

Renmin University of China

2011 - 2014

M.S. in Economics (GPA: 3.9/4.0)

**Southwestern University of Finance and Economics** 2007 - 2011 B.A. in Economics (GPA: 90/100)

# RESEARCH & PROJECT

# "Air Traffic and Urban Growth: Evidence from Airline Networks" (Job Market Paper)



This paper investigates the causal effects of air traffic on local economical growth. The results confirm significant positive effects. The mechanism is mainly through labor demand; financial service sectors are the main beneficiary of air traffic growth.

- · Big data manipulation and visualization on airline datasets
- K-means clustering machine learning for hub selection

## "Impact of COVID-19 on US Housing Market" (Pending)



This study provides quantitatively and visually exploration of COVID-19 effect on US housing metrics. Machine learning techniques are innovatively utilized for market prediction and cluster visualization.

- · ARIMA, LSTM, RNN modeling for prediction
- · K-means, Gaussian Mixture model for clustering
- Tableau interactive dashboard for visualization

# **WORK EXPERIENCE**

The University of Arizona

2014 - 2020

# Sole Instructor, Teaching Assistant



Working cross functionally with operations to make course materials and hold discussions. Course was rated 4.7/5 for effectiveness. TA for 7 different courses. Experience organizing and preparing technical contents. Versatility to communicate clearly with both technical and nontechnical audiences.

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20

# International Program Intern

Evaluating business model and operation; collaborating and identifying new growth and opportunities.

### PERSONAL INFORMATION

CITIZENSHIP China, US Permanent Residency
LANGUAGE English (Fluent), Mandarin (Native)

#### COMPUTER SKILLS

**Machine Learning and Deep Learning Implementation** Python (Scikit-learn/ Sklearn, TensorFlow, Keras)

**Statistical Analysis, Modeling, Prediction & Optimization** Python (NumPy, SciPy, Pandas), STATA, MATLAB, R, SAS

Big Data Manipulation and Visualization

SQL, Hadoop, Spark, Tableau, Matplotlib, D3.js, ggplot2

## **COURSEWORK**

CSE6242 Data and Visual Analytics, Fall 2020 Gatech & Collecting & visualizing data with D3.js & Tableau, SQLite, Hadoop, Spark and AWS; Scalable PageRank, Random Forest, Scikit-Learn.

CS7646 Machine Learning for Trading, Fall 2020 Gatech & Machine learning algorithms implementation for trading: KNN, regression trees, Decision Tree, Random Tree, Bootstrap Aggregating learner and Q-Learner (Reinforcement Learning).

#### Machine Learning, Stanford University



Implement SVMs for spam classifiers, clustering & PCA to compress images, anomaly detection algorithm for network failing servers, collaborative filtering for movie recommendation.

## Neural Networks and Deep Learning

**Certificate** 

Build, train and apply fully connected deep neural networks to classify planar data and classify cat vs. non-cat pictures.

# Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization

Optimize soccer kicking positions and hiking routes: mini-batch gradient descent, Momentum, RMSprop & Adam, L2 & dropout regularization, batch normalization, gradient checking.

#### **Structuring Machine Learning Projects**

**Certificate** 

Diagnose and reduce errors in a ML system; apply end-to-end learning, transfer learning, and multi-task learning.

### **Convolutional Neural Networks**

Certificat

Implement ConvNet and ResNets for object detection in autonomous driving and facial recognition; use the neural style transfer algorithm to generate novel artistic images.

## Sequence Models

**Certificate** 

Build and train RNNs, and use GRUs and LSTMs for text generation; apply sequence models to natural language processing (NLP) for text synthesis and audio applications.

#### **Industrial Organization Models; Experimental Economics**

Estimate dynamic models of consumer behavior; experience with experimental design and A/B testing.