

## 6018 N Moon Crest Dr, Tucson, AZ 85718 +1 (520) 307-9993 (Text & Call) chaogracewang@gmail.com http://gracewang.site chaogracewang gracewang0827

#### **EDUCATION**

The University of Arizona

2014 - May 2020 (exp.)

Ph.D. in Economics (GPA: 3.9/4.0)

Renmin University of China

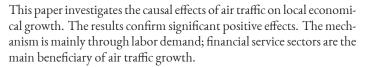
2011 - 2014

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

**Southwestern University of Finance and Economics** 2007 - 2011 B.A. in Economics (GPA: 4.0/5.0)

#### DOCTORAL RESEARCH

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



- Hub selection: K-means clustering machine learning
- Local air traffic instrument: Bartik shift-share(1991)

# "A More Generalized Way - The Effect of Internal Migration on Local Labor Markets"

This paper investigates the causal effect of internal migration on the local labor market. The results imply that instead of wage reduction, workers have to work longer under the same wage in response to internal migration.

"The Impact of Government Spending in the Healthcare Sector on Labor Market" (Work In Progress)

#### WORK EXPERIENCE

The University of Arizona

2014 - Present

## 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.

Grameen Bank

2013

### International Program Intern

Evaluating business model and operation. Collaborating and identifying new grow opportunities.

#### PERSONAL INFORMATION

CITIZENSHIP China, US Permanent Resident (Processing)

LANGUAGE English (Fluent), Mandarin (Native)

#### COMPUTER SKILLS

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#### Machine Learning & Deep Learning Implementation

Python (Scikit-learn/ Sklearn, TensorFlow, Keras)

#### Data Querying, Manipulating, Version-control

MySQL/PostgreSQL, REST, RegExr, Git, Unix/Linux

# Statistical Analysis, Modeling, Prediction & Optimization

Python (NumPy, SciPy, Pandas), STATA, MATLAB, R,SAS

#### **Data Visualization**

Python (matplotlib), R (ggplot2), Spotfire, ArcGIS

#### Web Scraping and Automated Testing

Python (Selenium, Pandas), DOM, R

#### Web-application Framework

Django, Flask, WordPress, Hugo, Bootstrap 4, Docker, PHP

## PROJECTS AND COURSEWORK

#### Introduction to Algorithms, MIT OpenCourseWare

Understanding algorithms, paradigms, data structures, performance measures and analysis technique.

### Machine Learning, Stanford University

**C**ertificate

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.

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Optimize soccer kicking & 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

**Certificate** 

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.

#### **Dynamic Industrial Organization Models**

Estimated dynamic models of consumer behavior and choice.