

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

#### **EDUCATION**

The University of Arizona

2014 - May 2020 (exp.)

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

Renmin University of China

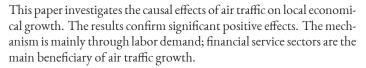
2011 - 2014

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)

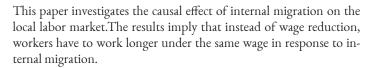
#### DOCTORAL RESEARCH

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



- · Big data manipulation and visualization on airline datasets
- K-means clustering machine learning for hub selection
- Bartik shift-share(1991) as local air traffic instrument

# "The Effect of Internal Migration on Local Labor Markets Using American Cities in 1980"



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

### WORK EXPERIENCE

The University of Arizona

2014 - Present

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# 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 growth and opportunities.

#### PERSONAL INFORMATION

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

#### COMPUTER SKILLS

# Machine Learning and 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

Have strong understanding of algorithms, paradigms, data structures, performance measures and analysis technique.

#### Machine Learning, Stanford University

**Certificate** 

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.

# 

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

**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.

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

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