

# GIOVANNI COLITTI

## EXPERIENCE

2020  
|  
Current

### Senior BI Analyst

Fieldin

 Remote

- Developed Shiny app to perform interactive mapping of vast machine level data, animate machine movement smoothly over time, and provide comprehensive contextual information.
- Developed Shiny app to interactively create visualizations and tables, and insert those (and other elements) into an arbitrary number of native PowerPoint slides; A user survey revealed time-savings from the app of hours per week per user.
- Created novel algorithm for counting harvest loads by analyzing distance patterns between harvesters and bankouts, with less than 5% error at the lowest level.
- Predicted machine unloading events with 90% accuracy.
- Built a framework for estimating customer costs.
- Improved standardization, reproducibility, and audibility of all information by carefully defining metric conversions & formatting.
- Used `{renv}` and `Docker` to control R package dependencies and Shiny app runtime environments, the `{golem}` framework for R package style documentation, and `{shinytest}` for testing of apps.
- Used ShinyProxy to publish applications and manage user access.
- Created multiple internal R packages to facilitate database connections, data wrangling, and other common programming tasks.

2018  
|  
2020

### Data Scientist

Grimmway

 Bakersfield, CA

- Trained ML models in R to forecast important business metrics including sales and yield; forecasts improved predictive accuracy by 30-50% over previous methods.
- Built object detection pipeline to generate carrot stand count estimates.
- Implemented linear programming problems in R to optimize planting and harvesting activities.
- Performed complex data cleaning and exploration on large datasets.
- Analyzed field trial data in R using appropriate statistical methods.
- Developed `{tidyroll}`, an R package for performing cross-validation of time-series data with irregular time slices; and `{coagmetr}`, an R package used to interface with the CoAgMET weather network API.
- Created Shiny apps to visualize forecasts, implement constrained optimization problems, and generate automated reports.
- Performed sample size calculations and provided spatial sampling recommendations.
- Communicated analytical methods and results to the executive team.

2015  
|  
2016

### Data Analyst Intern

Small Business Development Center


 Camarillo, CA

- Used small business metrics to predict clients at risk of bankruptcy.

## CONTACT INFO

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 <https://github.com/gacolitti>

 <https://GiovanniColitti.com>

 <https://tinyurl.com/yfrpukt>

 <https://tinyurl.com/twxsa92>

## SKILLS

**Analytical Methods:** regression, classification, clustering, feature engineering, linear programming and optimization methods, causal analysis, Bayesian and Monte Carlo methods

**Coding:** R (shiny, data.table, dplyr, ggplot, plotly, rmarkdown, leaflet, tidymodels, fable, brms, lpSolve, purrr, devtools, golem, testthat, renv, shinytest), Stata, SQL, Git, Docker

**Languages:** English, Chinese

## COURSEWORK

R Programming (I/II)  
Ecological Data Analysis in R  
Quantitative Business Science  
Econometrics (I/II)  
Financial Econometrics  
Web Applications in R with Shiny  
Quantitative Methods  
Applied Microeconomics  
Advanced Macroeconomics

- 2014 ● **Research Assistant**  
 California State University, Channel Islands 📍 Camarillo, CA  
 • Collected and cleaned data from various online sources using Stata programming.  
 • Created visualizations in Stata and wrote literature reviews of scientific articles related to Chinese & Indian stock, currency, and debt markets.

## EDUCATION

- 2018 ● **National Taiwan University**  
 M.S. in Agricultural Economics (4.0 GPA) 📍 Taipei, Taiwan
- 2016 ● **California State University, Channel Islands**  
 B.A. in Economics (3.8 GPA) 📍 Camarillo, CA

## SELECTED RESEARCH

- 2018 ● **Do Concealed Firearms Decrease Crime? An Analysis Using Active Concealed Firearm License Data in the United States**  
 Used a unique dataset on county-level concealed firearms permits and applied two-stage least squares estimation to show that concealed firearms do not decrease crime.  
 DOI: <http://dx.doi.org/10.6342/NTU201800993>
- 2018 ● **Do HEVs Cause More Cyclist & Pedestrian Injuries?**  
 Used logit model & large UK accident-level dataset to show that quieter electric vehicles significantly increase pedestrian accidents net of other covariates including speed limit and urbanization. Also used Bayesian methods (MCMC) to estimate the posterior distribution and check for non-normality in estimates.
- 2018 ● **Effect of Hurricane Morakot on Agricultural Prices in Taiwan**  
 Used a difference-in-differences (DiD) event study model and a large transaction-level dataset to quantify the casual effect of Hurricane Morakot on vegetable prices in Taiwan, adding weight to the literature that claims weather is oftentimes the most important driver of local agricultural prices.

## ACADEMIC HONORS AND AWARDS

- 2018 ● **Thesis Competition First Place Prize**  
 Master's thesis presentation competition first place winner.
- 2016 ● **Taiwan Ministry of Education Scholarship**  
 Merit scholarship for post-graduate studies in Taiwan.
- 2016 ● **Program Honors in Economics**  
 Selected by CSUCI Economics Department faculty for outstanding achievement.
- 2014 ● **Wang Family Scholarship**  
 Merit scholarship for international study in Taiwan & Mainland China.
- 2012 ● **President's Scholarship**  
 Highest scholastic achievement award in CSU system; only handful awarded annually.