Jonathon Carrasco

Economist · Data Scientist

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Summary

I have 15 years of experience of working with data in finance, commercial real estate, and medicine. Each of these fields have exposed me to a diverse set of statistical and econometric tools that I draw upon to tackle any question. It doesn't matter if you are working with millions of observations or a small curated sample, data requires a compelling story that can be told with clarity to be meaningful. Data wrangling can be messy but with the help of scripts and APIs it is possible to stitch together datasets from disparate sources for reliable analysis on demand. I am also familiar with programs like ArcGIS and Tableau for geoprocessing data for map creation and spatial analysis. Beyond these technical skills, I have studied commodity markets, fixed income securities, and financial derivatives which allow me a more complete perspective of financial markets in general.

Education

University of Houston
M.A. in Economics

Houston, TX
August 2013 - May 2016

University of Houston
M.S. in Finance

Houston, TX
August 2008 - December 2013

Rice University
B.A. in Mathematical Economic Analysis with Honors

Houston, TX
August 2002 - May 2006

Professional Experience

Madison Marquette
Associate Director, Reserach and Data Analytics

Houston, TX
September 2019 - Present

Data Analytics

While at Madison Marquette, I have built a set of interactive dashboards that allow historical studies on vacancy, availability, absorption, and leasing activity to be conducted on-the-fly for quick identification of trends. These dashboards can be printed out for distribution using a traditional slideshow format or they can be published online to allow for a conversation driven presentation of the data. I have also built an ecosystem of quarterly market and submarket reports using business intelligence tools like Tableau supported by computer programs written in Python to conduct routine analysis and data integrity checks.

Data Management

Data analytics are only as good as the information supporting them. To deliver best in class analytics, I have built a set of tools that allow third party market data and demographics to be linked to proprietary lease/sale comp, tenant, and availability information. With this structure in place, I have been able to create research products that can be quickly refreshed to ensure new intelligence is always available and reports are never stale. Using these tools, I have worked to track the Madison Marquette portfolio of assets and properties serviced. By linking internal and external datasets, it has been possible to have a real-time pulse on our portfolio with key performance indicators from otherwise siloed information.

Custom Applications

In order to ensure that the reports and analytics produced by our research team are timely, it has been important to automate routine tasks where possible. My experience in computer programming has allowed me to build custom applications that are able to take over the collection and analysis of datasets and return standardized data tables and charts that support other research products. For example, one program I created automatically downloads economic indicators, conducts a series of calcualtions to generate summary statistics, and then generates a new Excel file with key tables and graphs formatted and ready for use in presentations.

CBRE
Houston, TX

Senior Data Intelligence Analyst
September 2016 - September 2019

Data Visualization
Dashboards I built in Tableau and R were featured by CBRE Research as a Global Best Practice. I was invited on many occasions to teach advanced Tableau training sessions to my research peers across the company. Interactive portfolios, maps, and skylines I designed were featured in point of sale presentations and pitches in the office, retail, and multifamily lines of business. A quarterly Office and Industrial Market Share dashboard I built was adopted by the Managing Directors of the South-Central Region.

Data Management
Under my leadership, the Digital Intelligence team improved the quantity and quality of information captured in their proprietary database of lease comps and property data. Custom scripts I wrote in Python and Excel enabled our team to capture internal comp information in half the time and deliver an on-the-fly customized report to both brokers and management. My efforts to standardize and automate data collection by scraping websites and utilizing APIs allowed the research team to circulate market reports and present economic data each quarter without production lag.

Point of Sale
I was often invited to present my data visualizations and analysis in client briefings and at the point of sale in both Agency and Occupier pitches. The ability to work alongside a team of brokers allowed me to ensure that the analysis presented was tailored to the question at hand and in step with the overall vision the team was advocating. Because of my background in economics, I was called on to speak with authority on broader market trends and macroeconomic indicators by delivering a quarterly overview of the Houston economy and office market in the Office, Industrial, and Debt and Structured Finance lines of business meetings.

Lone Star College
Cypress, TX

Adjunct Professor
January 2014 - Present

I currently teach three-hour introductory Microeconomic and Macroeconomic classes in both a face-to-face and online setting. I am responsible for constructing a course syllabus, writing exams, and maintaining an online classroom complete with discussion boards, case studies, and weekly homework assignments to supplement coursework. Courses taught are credit-bearing and the college is regionally accredited.

University of Houston
Houston, TX

Research and Teaching Assistant
August 2008 - May 2013

Extensive experience in data collection, management, and econometric analysis for academic research and publication. Also responsible for teaching and grading undergraduate and MBA graduate courses at the University of Houston. Received the Clay and Lucy Carter Teaching Excellence Award.

The Methodist Hospital
Houston, TX

Research Fellow
May 2005 - July 2008

Fellowship to study how patients make medical decisions under severe uncertainty. Developed mathematical models to use biometric data and help patients discover their personal normals and provide feedback to manage chronic disease. Awarded a fellowship to apply six-sigma principles to study blood bank procedures and develop more robust methods. Produced "In Context" a biweekly podcast with Dr. Clifford Dacso on current medical news. Published a peer-reviewed article on uncertainty in medicine and presented research at conferences in the US and abroad.

Service

2018-2019 **CBRE Cares Houston,** Chairman - Finance Subcommittee
Houston, TX

Technical Skills

Programming Python • R • Stata • ArcGIS • Matlab • LaTeX • Microsoft PowerApps • Excel Macros and Pivot Tables • SQL • HTML & CSS

Statistical Expertise Linear Regressions • Maximum Likelihood Estimation • Logit & Probit Models • ARIMA Models with Trend • GARCH Models • Bayesian Analysis • Unit Root Testing • Markov Chain Monte Carlo Simulation • Identification of Structural Breaks • Regression Discontinuities • Spectral Analysis • Jackknife & Bootstrap Resampling • Sample Size & Power Calculations

Selected Coursework

Economics   Macroeconomic Modeling & Forecasting • Applied Econometrics • Urban Economics • DSGE Models • Monetary Policy • International Monetary Economics

Finance   Options & Futures • Fixed Income Securities • Continuous Time Finance • Financial Management • Financial Econometrics • International Finance & Macroeconomics

Honors & Awards

2009   **Clay & Lucy Carter Teaching Excellence Award,** C.T. Bauer College of Business, University of Houston   *Houston, TX*

2008   **Dyer Fellowship for Improving Patient Care Through Research,** The Methodist Hospital   *Houston, TX*

2006   **Philpott Award for Service to Baker College and Rice University,** Rice University   *Houston, TX*

2005   **Finger Fellowship for Sustainable Health,** The Methodist Hospital   *Houston, TX*

2002   **Barbara Jordan Scholar,** Rice University   *Houston, TX*