# JACK COLLISON

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## EDUCATION

**Stanford University** *Stanford, CA*
*M.S. in Statistics* (3.9/4.0) September 2019 - June 2021
*B.A. in Economics with Honors* (3.8/4.0) September 2016 - June 2020
Awards:

- Stanford University Anna Laura Meyers Prize for Outstanding Honors Thesis in Economics (2020)
- Stanford University Department of Economics Summer Research Grant Recipient (2017)
- National Merit Finalist (2016)
- AP Scholar with Distinction (2016)
- Intel International Science and Engineering Fair Finalist (2014, 2015)

## WORK EXPERIENCE

**Ellington Management Group** *Greenwich, CT*
*Research Analyst Intern* September 2020 - December 2020

- Developed various linear and non-linear models to predict probability of default

*Research Analyst Intern* June 2019 - September 2019

- Analyzed large loan data sets, forecasted macroeconomic conditions with statistical models, and assisted in trade execution with ad hoc analysis
- Created large databases and statistical models for opaque financial products and markets
- Tools include various probability distributions, sampling, time-series modeling, PCA, and regressions

**QuantCo** June 2020 - September 2020
*Quantitative Research Intern* *Berlin, Germany (Virtual)*

- Responsibilities include developing and implementing algorithms to drive business decisions
- Used relational databases and statistical techniques to identify cases of harmful drug interactions
- Created a novel deep learning framework to predict surgical necessity

**Stanford Institute for Economic Policy Research** October 2017 - June 2019
*Research Assistant* *Stanford, CA*

- Developed a dataset on retail establishment location, entry, exit, and card transactions for understanding offline and online competition and growth with transactional data from Visa Inc.
- Received a grant to continue research under the direction of Professors Pete Klenow and Liran Einav
- Tools include data cleaning and merging, web scraping, and machine learning

**NASA Frontier Development Lab** June 2017 - August 2017
*Research Intern* *Mountain View, CA*

- Designed Python scripts to collect submitted data, run CAMS (meteor shower survey) software, and compare calculated orbit with a meteor shower template file based on annotated showers
- Machine learning and deep learning used to identify and classify outbursts of meteors

## CAMPUS INVOLVEMENT

**Statistics for Social Good** February 2018 - Current
*Co-Chair, Data Scientist* *Stanford, CA*

- Identify social problems that can benefit from improved data analysis
- Sponsor hackathons and host events; responsibilities include fundraising, recruiting, and organizing

**Stanford University Department of Statistics** April 2020 - June 2020
*Grader* *Stanford, CA*

- Served as a grader for STATS 60, an introductory class in statistics at Stanford University
- Topics include estimation, confidence intervals, hypothesis testing, and linear regression

**Stanford University School of Medicine** February 2018 - April 2018
*Data Scientist* *Stanford, CA*

- The Oncoshare Project's goal is to improve quality of breast cancer care using big data
- Developed data visualizations to identify trends of interest and conducted statistical analysis

**Code the Change** September 2016 - June 2017
*Web Developer* *Stanford, CA*

- Designed a website (HTML, CSS) for CultureMesh, a nonprofit social networking platform that connects refugees, in conjunction with Stanford's Code the Change

## RESEARCH & PROJECTS

**The Impact of Online Food Delivery Services on Restaurant Sales** June 2020

- Honors Thesis in Economics; used difference-in-differences methodology to find robust and heterogeneous substitution effects on the order of 50-70 cents of each dollar spent on online delivery
- Paper and presentation awarded the Anna Laura Myers Prize for Outstanding Honors Thesis

**Tools for Performing Causal Inference with Observational Data** March 2020

- R package for leading analysis methods for inferring causality from observational data
- Include methods for assessing of covariate balance, estimating propensity scores, and computing average treatment effects and heterogeneous treatment effects (with Toren Fronsdal and Shuvam Charkraborty for STATS 290)

**Trends in Hospital Prices for the Publicly and Privately Insured, 2009-15** August 2020

- TODO

## TECHNICAL SKILLS

Python, R, SQL, Excel, Stata, CSS, HTML, C++, Java, Javascript, Hive

## PUBLICATIONS

- Jenniskens et al. A survey of southern hemisphere meteor showers (Journal of Planetary and Space Science, 2017)
- Automating meteor validation and trajectory quality control in the search for long-period comets (International Meteor Conference, 2017; presented by Marcelo de Cicco)
- Searching for Long-Period Comets with Deep Learning Tools (Neural Information Processing Systems: Deep Learning for Physical Sciences, 2017; presented by Susana Zoghbi)