

# MICHAEL CULLAN

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Cell: 602-301-0922 — Brooklyn, NY

## SKILLS

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**Python** Data Visualization • Pandas • Web Scraping • Scikit-learn • Tensorflow  
**Dashboards** Tableau (certified) • Plotly • Streamlit • Bokeh • Altair  
**Programming Languages** Python • R • SQL • UNIX command line and scripting • JavaScript  
**Machine Learning** Regression • Classification • Natural Language Processing • Clustering  
**Statistics** Design of Experiments • A/B Testing • Bayesian Inference • Time Series  
**Development** Cloud Applications • Kubernetes • Continuous Integration • git

## EXPERIENCE

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**Data Scientist in Residence** Apr 2019 - Present  
The Data Incubator / Pragmatic Institute New York, NY

- Constructed and maintained an automated pipeline for integrating CRM, email marketing, and sales data
- With above data sources, used classification to predict repeat buyers by their engagement patterns
- Conducted A/B testing to compare personalized marketing emails to existing practices
- Used NLP on 100,000+ job postings to identify in-demand data science skills and improve curriculum design

**Graduate Research Assistant** Jan 2017 - Dec 2018  
Arizona State University Tempe, AZ

- Developed an algorithm for selecting among unrelated statistical models with desired (e.g. 95%) test confidence
- Authored an R package enabling users to implement the procedure with their own models and data
- Used this R package to test real-world fossil data set against models of evolutionary shift

**Summer Research Program Scholar** July 2017  
University of Washington Seattle, WA

- Simulated the spread of epidemics and the vaccination effects with Markov Chain Monte Carlo methods
- Identified variants of viruses by comparing real data to simulated mutations and possible phylogenetic family trees

**Undergraduate Research Assistant** Aug 2015 - May 2016  
University of Arizona Tucson, AZ

- Developed Python software to encode data from sheet music files to train AI for jazz improvisation
- Used this tool to clean data and find discrepancies between human and computer transcriptions of jazz solos

## EDUCATION

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**Data Science Fellowship** Jan 2019 - Mar 2019  
The Data Incubator New York, NY

**Master of Science in Statistics** December 2018  
Arizona State University Tempe, AZ

**Bachelor of Science in Mathematics** May 2016  
University of Arizona Tucson, AZ

## PUBLICATIONS

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Cullan, M., Lidgard, S., Sterner, B. (2020). Controlling the error probabilities of model selection information criteria using bootstrapping, *Journal of Applied Statistics*, 47(13-15), 2565-2581.