Hope Johnson | Curriculum Vitæ

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Education

Macalester College   **St. Paul, MN**

B.A., Statistics, Economics   *2013–2017*
- Cumulative GPA: 3.65
- Statistics Honors Thesis: "A Statistical Analysis of Body-Worn Cameras in Officer-Involved Shootings"
- Economics Capstone: "Natural Disasters and Mobile Banking Adoption in 55 Developing Countries"

Independent and Freelance Research

Accountable Policing Project - NYC

Independent Project   *April 2018 – present*

- Develop a database documenting instances of police misconduct within the New York City Police Department.

Far-Right Media Manipulation on YouTube

Data & Society   *April 2018*

- Scrape, clean, and compile data from the YouTube API on far-right YouTube influencer's video statistics;
- Analyze differences between videos related to mainstream media and videos unrelated to mainstream media.

A Statistical Analysis of Body-Worn Cameras in Officer-Involved Shootings

Statistics Honors Thesis   *Aug. 2016 – May 2017*

- Specify a zero-inflated negative binomial regression to analyze the relationship between body-worn cameras and victim race in officer-involved shootings.

Racial Difference in the Predictive Accuracy of a Recidivism Risk Assessment Instrument

Survival Analysis Term Paper   *Fall 2016*

- Test if the COMPAS recidivism risk assessment tool predicts the risk of recidivism with equal accuracy across races using a Cox proportional hazards model;
- Awarded first place in the American Statistical Association's undergraduate research paper competition (USRESP).

Natural Disasters and Mobile Banking Adoption

International Development Term Paper   *Fall 2016*

- Analyze whether a country-wide environmental shock is associated with increasing adoption of mobile banking in 55 developing countries.

Heroin and Naloxone: Disentangling an Epidemic

Econometrics Term Paper *Spring 2016*

o Investigate the impact of making naloxone available to heroin users;

o Awarded third place in the Minnesota Economic Association's undergraduate research paper competition.

Farmers' Networks and Extreme Weather Events

Environmental Policy Term Paper *Fall 2015*

o Develop a Bayesian decision-tree to model the likelihood that a farmer takes signals from members of their network.

Can Water Be Efficiently Allocated Through Price Policy?

Agricultural Economics Term Paper *Fall 2016*

o Empirically investigate three water pricing mechanisms to assess how each maximize social benefit.

Experience

Mathematica Policy Research **Cambridge, MA**

Front-End Data Scientist *Sept. 2017–present*

o Develop and implement social network analyses to evaluate health- and criminal justice-related federal and state government programs;

o Perform Bayesian statistical analysis to assess the impact of Medicaid/Medicare intervention programs;

o Simulate correlated patient-level data for regression testing;

o Create polished data visualizations and dashboards using D3, Tableau, and ggplot.

Bill & Melinda Gates Foundation **Seattle, WA**

Data Visualization Consultant *Dec. 2016–June 2017*

o Quantify and visualize gaps between health services and patient care among Kenyan households;

o Prepare visuals, analysis, and discussion for forthcoming articles in the Journal of Infectious Disease.

Educating Sustainability Ambassadors Initiative **St. Paul, MN**

Data Science Research Analyst *June - Aug. 2016*

o Construct a linear mixed-effects model to describe the relationship between farm-to-school programs and student educational outcomes in Minnesota.

Crossroads Resource Center **Minneapolis, MN**

Empirical Research Assistant *June - Aug. 2015*

o Researched the economics of local food supply chains in St. Paul and Minneapolis.

Information Technology

Advanced Proficiency: R, Python, Julia, Stan, LaTex, Git, Stata, Microsoft Office
Intermediate Proficiency: AWS, D3.js, Node.js, JavaScript, HTML, CSS, Processing, Tableau
Basic Proficiency: SQL, SAS

Awards, Grants, and Honors

Recipient of the David Bressoud prize for excellent communication skills in mathematics *2017*

Eyeo Festival Student Grant   *2017*

1st place, undergraduate research paper contest winner (American Statistical Association)   *2017*

3rd place, term paper contest winner (Minneapolis Federal Reserve)   *2016*

Educating Sustainability Ambassador (Howard Hughes Medical Institute/Macalester College)   *2016*

Omicron Delta Epsilon Economics Honors Society Member   *2016*

Dean's List (Macalester College)   *2013-14*

DeWitt Wallace Distinguished Scholar   *2013-2017*

Presentations and Talks

Friendly Tech Space
Summer Meeting   *July 2018*
"Centering Equity in Data Science"

Consortium for the Advancement of Undergraduate Statistics Education
Electronic Statistics Research Conference   *November 2017*
"Survival Analysis of a Criminal Justice Decision Algorithm"

Macalester College
Honors Defense - Department of Applied Mathematics   *April 2017*
"A Statistical Analysis of Body-Worn Cameras in Officer-Involved Shootings"

Northwestern University
Graduate Research Opportunities for Women in Mathematics (GROW) Conference   *Oct. 2016*
"Summer Research as an Undergraduate"

Languages

English: Fluent
French: Intermediate   *Conversational*
Arabic: Basic   *Basic words and phrases only*
Bambara: Basic   *Basic words and phrases only*