Raven **McKnight**

STATISTICIAN & DATA SCIENTIST
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Education

Macalester College   *Sept 2016 - May 2020*

BA IN APPLIED MATHEMATICS AND STATISTICS (HONORS), SUMMA CUM LAUDE   *Saint Paul, MN*

- Minors in Geography (GIS) and Creative Writing
- Awarded The Kaplan Award for Acheivement in Data Science

TWIN CITIES BUS RIDERSHIP: A SPATIAL BAYESIAN ANALYSIS

- Statistics honors thesis conducted in collaboration with Metro Transit

Technical Skills

Analytics and Programming: R/RShiny, Python, SQL, Tableau, Jupyter, ArcGIS, QGIS, Stan, JAGS

Cloud and Distributed Computing: Hadoop, MapReduce, Docker, AWS

Machine Learning: Tensorflow, scikit-learn

Other: Bayesian modeling, time series modeling, spatial modeling, version control/Github, LaTeX, Adobe Creative Suite, Django, Hugo, bookdown/blogdown

Work and Teaching Eperience

Data Science Intern - Research and Analytics   *June 2019 - present*

METRO TRANSIT   *Minneapolis, MN*

- Designed, implemented, and maintain a spatial Bayesian direct demand model of bus ridership
- Identified novel predictors of ridership in the region and introduced a new demographic survey question to the agency
- Conduct analysis supporting agency-wide equity goals and initiatives
- Design and build R Shiny apps for internal use
- Ad hoc reporting and data support for business units

Teaching Assistant   *Jan 2018 - May 2020*

MACALESTER COLLEGE MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE DEPARTMENT   *Saint Paul, MN*

- Served as a teaching assistant for Linear Algebra (Spring 2018, Fall 2018), Applied Multivariable Calculus 1 (Spring 2019, Spring 2020), Correlated Data (Fall 2019), Causaul Inference (Spring 2020), and Introduction to Statistical Modeling (Spring 2020)
- Directed weekly office hours and attended classes to assist with activities
- Effectively communicated complex mathematical concepts and programming skills to a wide audience with varying academic backgrounds
- Graded homework and communicated with professors regarding class progress and adjustments
- Shifted to online office hours in Spring 2020 to support students in introductory classes through the transition to online learning

Office Assistant   *Aug 2018 - Mar 2020*

MACALESTER COLLEGE MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE DEPARTNMENT   *Saint Paul, MN*

- Asssisted with department-wide planning and daily secretatrial tasks
- Helped facilitate events such as weekly coffee breaks and annual block parties

Instructor   *Fall 2017*

COW TIPPING PRESS   *Saint Paul, MN*

- Taught inclusive creative writing workshops for adults with developmental disabilities
- Developed engaging lessons for students with diverse backgrounds and abilities
- Published student work and hosted a successful public reading

Data Science Researcher   *Fall 2019*

NATIONAL GALLERY OF ART   *Remote*

- Analyzed the Gallery's collection for gender diversity in acquisition practices
- Presented findings at the Gallery as the only undergraduate team
- Developed prototype for an internal R Shiny dashboard to monitor collections

Saint Paul 3K Initiative *Fall 2019*
Saint Paul City Council *Saint Paul, MN*
- Class project to support Saint Paul City Councilmemeber efforts to provide affordable, accessible childcare to all 3- and 4-year old children in Saint Paul through data visualization and GIS
- Conducted primary data collection to develop database of existing childcare centers

Volunteering and Service

Tenure Track Hiring Committee Member *Fall 2018 and Fall 2019*
Macalester College Mathematics, Statistics, and Computer Science Department *Saint Paul, MN*
- Selected by department to be an equal voting member on the Committee Member to hire tenure track professors
- Conducted interviews and evaluated job applications
- Coordinated student events during candidate campus visits and administered student surveys
- Served on three successful Committee Members, resulting three successful tenure track hires in Mathematics, Applied Mathematics, and Statistics

Class Agent *Sep 2019 - Mar 2020*
Macalester College *Saint Paul, MN*
- Nominated to serve as an agent and encourage students and alum to donate to Macalester in support of financial aid
- Conducted fundraising outreach and education for peers on campus

Committee Member *May 2017 - May 2018*
Macalester Women in Mathematics, Statistics, and Computer Science *Saint Paul, MN*
- Encouraged gender diversity in Math, Statistics, and Computer Science through networking and professional development
- Held events such as female faculty panels and weekly study breaks

Macalester Mentor *May 2016 - May 2017*
Macalester College *Saint Paul, MN*
- Mentored low-income, first-generation high school students through the college application process
- Led tours of Macalester's campus and spoke on panels about financial aid and college life

Talks and Presentations

2021	**Analyzing Bus Ridership with a Spatial Direct Demand Model**: Poster session presenting benefits of spatial modeling to transportation professionals
2020	**Twin Cities Bus Ridership: A Spatial Bayesian Analysis**: Honors thessis defense
2019	**Intent in Acquisition**: Presented R Shiny app and findings to Gallery curators and staff

Honors and Awards

2020	**Kaplan Award for Acheivement in Data Science**: Macalester College
2019	**DataFest Best in Show**: Macalester College

Publications

2020	**Meandering Minneapolis: A Cultural Atlas**: `https://www.flipsnack.com/macalester/meanderingminneapolis/full-view.html`

Technical Skills

Analytics and Programming: R/RShiny, Python, SQL, Jupyter, ArcGIS, QGIS, Stan, JAGS

Cloud and Distributed Computing: Docker, Azure, MapReduce, AWS

Machine Learning: Tensorflow, scikit-learn, Spark ML

Other: Version control/Github, LaTeX, Adobe Creative Suite, Django, Hugo, bookdown/blogdown