

AHERN M. NELSON

EDUCATION

BACHELOR OF SCIENCE MATHEMATICS, METROPOLITAN STATE UNIVERSITY OF DENVER

GPA: 3.63

Date of Graduation: August 2019

Focus in Statistics and minor in Computer Science

PROFESSIONAL EXPERIENCE

LEARNING ASSISTANT - MSU DENVER

JANUARY 2019 – AUGUST 2019

Supervisor: Brooke Evans

- ❖ Lecturer and Aide for College Algebra Course of 35+.
- ❖ Planned activities and lessons that promoted active and inquiry-based learning methods. Met with students during office to address individual challenges and questions.
- ❖ Participated in semester long training investigating learning styles and teaching methods.
- ❖ Received positive student evaluations at end of year assessment.

RESEARCH ASSISTANT - MSU DENVER

AUGUST 2017 – MAY 2018

Supervisor: Dr. Elizabeth Ribble

- ❖ Managed and formatted dataset of E. coli populations spanning 4 years. Published reproducible transparent record of all alterations to GitHub.
- ❖ Aggregated and imputed non periodic sparse time observations to a coarser scale for time series trend modeling.
- ❖ Investigated links between E. coli and human factors using seasonal time series (ARIMA) models.
- ❖ Our models disqualified several policy influencing hypotheses about E. coli population sources and safe thresholds for E. coli.
- ❖ Presented findings to non-profit at Undergraduate Research Conference. Recommendations about data collection process delivered to nonprofit Groundwork Denver and Denver Water.

MATHEMATICS TUTOR - MSU DENVER

FEBRUARY 2017 – JULY 2018

Supervisor: Dr. Ken Prevot

- ❖ Tutor for both lower and upper division undergraduate math courses ranging from College Algebra to Topology.
- ❖ Provide students with assistance and guidance in developing a conceptual understanding of mathematical modes of thought.
- ❖ Mastered communication skills necessary to convey information to a broad base of learning styles.
- ❖ Provide students with guided practice to facilitate successful application of theories.

PROGRAMMING & SKILLS

- ❖ R Programming (tidyverse, rpart, etc.)
 - ❖ Python (pandas, numpy, keras, etc.)
 - ❖ Research (quantitative, inference, modeling)
 - ❖ Data Analysis, Management, and Visualization
 - ❖ Excel (Pivot Tables, VLOOKUP, Queries, Macros, etc.)
 - ❖ Basic SQL Experience
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PROJECTS & ACTIVITIES

NEW YORK HOUSING AND VACANCY SURVEY

- ❖ Led large scale research project analyzing housing quality in New York City.
- ❖ Constructed statistical index quantifying housing quality.
- ❖ Found complex relation between neighborhoods poverty levels and housing quality and presented work at Joint Statistical Meetings in August 2019.

VISUALIZATION DASHBOARDS

- ❖ Developed two web applications for Metropolitan State University of Denver using the Shiny framework in R.
- ❖ In 2019 I independently developed an interactive app visualizing results of a Faculty Equity and Inclusion Survey.
Code: <https://github.com/ahernnelson/Survey-Application>
- ❖ In 2017 I worked with faculty to build a visualization tool to investigate the types of errors made on mathematics exams.
Code: <https://github.com/ahernnelson/Shiny-App>

BUDAPEST SEMESTERS IN MATHEMATICS

- ❖ Study Abroad Program Fall 2018
- ❖ Enrolled in Measure Theory, Complex Analysis, and Functional Analysis

METROPOLITAN STATE UNIVERSITY OF DENVER ACTUARIAL CLUB

- ❖ Vice President Spring 2017 – Fall 2018
 - ❖ Passed Exams P/1 and FM/2
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