

# Jeffrey Mei — Curriculum Vitae

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## Education

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### University of Arizona

*Ph.D. in Statistics and Data Science*

**Tucson, AZ**

*08/2022–Current*

### University of Nevada, Reno

*M.S. in Mathematics (Statistics Emphasis)*

**Reno, NV**

*08/2016–NA*

### University of Nevada, Reno

*B.S. in Mathematics (Applied Mathematics Emphasis)*

**Reno, NV**

*08/2012–05/2016*

- Minors in Computer Science & Engineering, Physics
- Honors Program

## Professional Experience

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### Allegiant Air Travel Company

*Operations Research Analyst*

*05/2019–06/2020; 05/2021–08/2022*

- Modeled customer boarding procedures resulting in company-wide adoption of new boarding strategy
- Forecasted how policy decisions could affect staffing operations
- Migrated model indicating conflicts with existing flight schedules from Excel to Python
- Updated and maintained software for scheduling flight attendants and pilots
- Developed tools to automate tasks to improve quality of life and efficiency of other working groups
- Analyzed customer behavior and revenue under experimental discount initiative

## Research Experience

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### Research Training Group

*Graduate Assistant*

**University of Arizona**

*08/2023–present*

- Implemented various change point detection algorithms and simulated behavior to identify weaknesses
- Developed new change point detection algorithms to ameliorate weaknesses
- Extended theoretical properties of equivariant variance estimators to equivariant covariance estimators
- Mentored undergraduate student for summer research project in computational biology

### Master's Thesis

*Research Assistant*

**University of Nevada, Reno**

*08/2017–05/2018*

- Studied, developed, and implemented mathematical models of reliability for radial power grids
- Modified existing distance-independent reliability models to account for distance-dependencies
- Implemented spatiotemporally dependent component decay into reliability model

### Graduate Research Assistantship

*Graduate Research Assistant*

**University of Nevada, Reno**

*08/2016–08/2017*

- Developed and explored novel stochastically ordered estimators and compared its mean squared error properties against existing estimators within the literature
- Ran simulations in R to study the performance of newly constructed stochastically ordered estimators

## Honor's Undergraduate Senior Thesis

Research Assistant

University of Nevada, Reno

09/2015–05/2016

- Wrote and defended *Estimating Survival Functions in the Case of Three or More Stochastically Ordered Populations*
- Developed a novel estimator to generalize an existing stochastically ordered estimator to model survival times for stochastically ordered populations
- Programmed simulations in R to study the performance of the new generalized estimator

## Summer Institute of Biostatistics

Participant

University of Pittsburgh

06/2015–08/2015

- Studied Hardy-Weinberg equilibrium of several genes possibly linked to dental cavities
- Developed Stata program to study Hardy-Weinberg equilibrium of cavity genes
- Orally presented summer research in *Studying Racial, Gender, and Environmental Effects on Hardy-Weinberg Equilibrium of Multiple Genes Associated with Dental Caries*

## Research for Undergraduates Summer Institute of Statistics

Research Assistant

University of Nevada, Reno

05/2014–08/2014

- Developed an algorithm and probability model to assess the reliability of a power distribution system
- Implemented probability model in R to study the model with respect to varying parameters
- Synthesized summer results in technical report *Analysis of Power Distribution System Reliability*
- Presented summer research results to invited statistics panel
- Presented the poster *Analysis of Power Distribution System Reliability* at the 2014 Society for the Advancement of Chicanos/Hispanics and Native Americans in Science conference
- Presented the poster *Analysis of Power Distribution System Reliability* at the 2014 College of Science Poster Competition

## Teaching Experience

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### Research for Undergraduates Summer Institute of Statistics

Teaching Assistant

Oregon State University

06/2018–08/2018

- Taught month-long course covering a traditional 2-semester treatment of probability and statistics
- Mentored students with undergraduate research projects and assisted in debugging R code

### Graduate Teaching Assistantship

Teaching Assistant (Calculus I)

University of Nevada, Reno

08/2017–05/2018

- Developed and administered exercises during class
- Administered and graded weekly quizzes

### Research for Undergraduates Summer Institute of Statistics

Teaching Assistant

Oregon State University

06/2017–08/2017

- Taught month-long R programming course (topics include: basic programming, vectorization, parallel computing, running simulations)
- Introduced  $\LaTeX$  typesetting, Beamer, and R Markdown
- Mentored students with undergraduate research projects, and assisted in debugging R code

### Research for Undergraduates Summer Institute of Statistics

Computer Technical Support

University of Nevada, Reno

08/2016–12/2016

- Mentored students with undergraduate research projects, and assisted in debugging R code
- Conducted a  $\LaTeX$  and Beamer workshop to introduce students to typesetting

## Technical Skills

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**Programming Languages:** R, Python, C/C++, Java, VBA, SQL, SAS, Stata

**Other:** Amazon Web Services, Markdown,  $\LaTeX$ , Microsoft Office