Cassidy K. Buhler (she/her)

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Education

2024 **Ph.D. Operations & Business Analytics** — **Drexel University**
Minor: Computational Data Science — Philadelphia, PA
Expected Graduation: June 2024

2019 **B.S. Mathematics** — **University of Utah**
Statistics Emphasis — Salt Lake City, UT

Employment

2019 – Present **Doctoral Research Fellow** — **Drexel University**
Department of Decision Sciences & MIS

- Applied optimization methods and models to address challenges in machine learning and land conservation.
- Developed an open-source decision-making tool for spatial conservation planning using an optimization framework that minimizes a species' predicted extinction risk.
- Designed an optimization algorithm that required fewer iteration counts to solve large-scale machine learning problems and implemented it into software for widespread use.
- First-authored 5 papers and delivered research presentations at 8 conferences.

2019 – Present **Instructor & Teaching Assistant** — **Drexel University**
Department of Decision Sciences & MIS

- Served as an instructor for 4 classes and 2 workshops, and as a TA for 25+ classes.
- Created and delivered instructional materials for undergraduate, MS, MBA, Executive MBA, and PhD students in statistics, business analytics, operations research, operations management, and MIS courses.
- Earned 2 student-nominated teaching awards and achieved course evaluation scores above department/college averages.

2018 – 2021 **Math Biology Research Assistant** — **University of Utah**
Department of Mathematics

- Developed math models to study the response of castration-resistant prostate cancer under various treatment regimens.
- Simulated biological dynamics as differential equations, formulating models with differing mechanism complexity.
- Evaluated modern treatment regimens under this scheme and disseminated findings to academic and medical audiences.

2018 **Computer Scientist Intern** — **United States Air Force**
Hill Air Force Base

- Conducted research related to improving software for USAF aircraft in the Software Engineering Group.
- Hired under the Premier College Intern Program and earned a position in the PALACE Acquire program.

Skills

Programming

Language	*Libraries/Packages/Toolboxes*
Python	PyTorch | TensorFlow | Pandas | BeautifulSoup | scikit-learn | Keras | Seaborn | rasterio
R	tidyverse | ggplot | rgdal | raster | rgeos | SDMTools | deSolve
MATLAB	Deep Learning | Statistics & Machine Learning | Optimization | Financial | Computer Vision

Optimization Software

Software	*Applications*
GUROBI	Quadratic Programming | Linear Programming
Pyomo	Mixed-Integer Nonlinear Programming | Derivative-Free Optimization
CVX	Convex Optimization
CPLEX	Integer Programming | Linear Programming
AMPL	Nonlinear Programming

Coursework

Subject	*Courses*
Computer Science	Data Structures & Algorithms | Deep Learning | Artificial Intelligence | Machine Learning | Data Mining
Data Science	Data Acquisition & Pre-Processing | Data Analysis & Interpretation
Statistics	Statistical Inference | Multivariate Analysis | Time Series Analysis
Applied Math	Nonlinear Programming | Linear Programming | Stochastic Optimization | Math Econ | Game Theory