Cassidy K. Buhler

Ph.D. Student in Business Analytics

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Education

2019-2024 (expected) **Ph.D. Business Administration – Operations & Business Analytics Concentration, Graduate Minor: Computational Data Science**,
Drexel University, Philadelphia, PA.
Advisor: Hande Y. Benson

2015–2019 **B.S. Mathematics – Statistics Emphasis**,
University of Utah, Salt Lake City, UT.

Research

Nonlinear optimization, machine learning, computational optimization, operations research

Papers

Buhler C. K., Benson H. Y., Shanno D. F. (2021). *Regularized step directions in conjugate gradient minimization for machine learning*. In preparation for submission to *INFORMS Journal on Optimization*. Expected completion date July 1, 2021.

Buhler C. K., Terry R. S., Link K. G., Adler F. R. (2021). *When does adaptive therapy work? Comparing cancer treatment strategies across mathematical models and outcome objectives*. Under first round of review at *Mathematical Biosciences and Engineering*.

Buhler C. K., Benson H. Y. (2020). *Efficient Solution of Portfolio Optimization Problems via Dimension Reduction and Sparsification*. Technical report. Drexel University, Philadelphia PA, USA.

Buhler C. K., Terry R. S., Link K. G., Adler F. R. (2019). Mathematical modeling of adaptive therapy in prostate cancer. *Undergraduate Research Journal.*

Presentations

2021 INFORMS Annual Meeting. **Buhler C. K.**, Benson H. Y. Shanno D. F. *Regularized step directions in conjugate gradient minimization for machine learning*.

2021 SIAM Conference on Optimization. **Buhler C. K.**, Benson H. Y., *Conjugate gradient methods for machine learning*.

2020 INFORMS Annual Meeting. **Buhler C. K.**, Benson H. Y. *Efficient Solution of Portfolio Optimization Problems via Dimension Reduction and Sparsification.*

2020 Drexel Computer Science Theory Reading Group. **Buhler C. K.** *Portfolio Optimization.*

2019 Undergraduate Research Symposium. **Buhler C. K.**, Terry R. S., Link K. G., Adler F. R. Mathematical modeling of adaptive therapy in prostate cancer.

Teaching

2019-Present Recitation Instructor, Drexel University
- MIS 200: Management Information Systems

2019-Present Teaching Assistant, Drexel University
- BSAN 360: Programming for Data Analytics
- OPM 200: Operations Management
- OPM 341: Supply Chain Management
- OPR 320: Linear Models for Decision Making
- STAT 201: Intro to Business Statistics
- STAT 202: Business Statistics II
- STAT 205: Statistical Inference I
- STAT 206: Statistical Inference II

Outreach & Service

2019 Utah Prison Education Project Tutor, Timpanogos Women's Correctional Facility.
Tutored students who are incarcerated in a Salt Lake Community College math course.
- MATH 1030: Intro to Quantitative Reasoning

Awards & Scholarships

2021 Teaching Assistant Excellence Award – Highly Commended, Drexel University
For graduate students who "exhibit exemplary commitment to student learning". There were over 50 nominations and highly commended is an award finalist.

2019 Undergraduate Research Scholar Designation, University of Utah
For undergraduate students who have completed two semesters of research, have presented in the Undergraduate Research Symposium, and published research in the Undergraduate Research Journal.

2019 Research Experience for Undergraduates, University of Utah
This grant was for undergraduate students conducting research with a faculty member from the mathematics department.

2015-2018 Honors at Entrance Scholarship, University of Utah
Full tuition scholarship awarded to the top scholar at each Utah high school, based on GPA and ACT score.

2015 Utah Centennial Scholarship for Early High School Graduation, State of Utah
Scholarship awarded to Utah residents who have graduated high school early.