Alan Luner

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EDUCATION

Johns Hopkins University
PhD Candidate - Applied Mathematics and Statistics   *Aug 2021 – Present*
Advisor: Benjamin Grimmer
GPA: 3.96

Johns Hopkins University
Master of Science in Engineering - Applied Mathematics and Statistics   *Aug 2021 – May 2023*
GPA: 3.96

University of North Carolina at Chapel Hill
BS - Mathematics, BA - Chemistry   *Aug 2014 – May 2018*
GPA: 3.98

RESEARCH

Mathematical programming, first-order optimization methods, computer-assisted algorithm design

- **A. Luner,** Benjamin Grimmer. "Performance Estimation for Smooth and Strongly Convex Sets" *arXiv preprint: 2410.14811* (2024).
- **A. Luner**, Benjamin Grimmer. "On Averaging and Extrapolation for Gradient Descent" *arXiv preprint: 2402.12493* (2024).
- Garam Lee, **A. Luner**, Jeremy Marzuola, Daniel M. Harris. "Dispersion Control in Pressure-Driven Flow Through Bowed Rectangular Microchannels" *Microfluid Nanofluid* **25**, 34 (2021).

EXPERIENCE

Applied Research Lab for Intelligence & Security – Research Intern   *May 2023 – Aug 2023*
- As part of the Research for Intelligence and Security Challenges (RISC) internship, developed framework for automated improvements to large-scale 3D models, specifically focused on accurate representation of buildings
- Applied various clustering and principal component analysis methods to perform surface corrections to point cloud data

Epic Systems – Integration Engineer   *July 2018 – July 2021*
- Served as development lead for a 2000-hour project to create e-prescribing interfaces for a new electronic prescription communication framework in Norway
- Managed a five-person development group for reporting on internal data; responsible for setting timelines, determining project priority, and establishing a long-term roadmap for the group
- Developed fixes and enhancements for pharmacy and e-prescribing communication interfaces

PROGRAMMING AND SOFTWARE

Julia, Python (Scikit-learn, Pandas), MATLAB, M, R, SQL, Java, SolidWorks

AWARDS AND SCHOLARSHIPS

Rufus P. Isaacs Graduate Fellowship *Sep 2024*
Phi Beta Kappa *May 2018*

TALKS

Fall 2024   **Performance Estimation for Smooth and Strongly Convex Constraint Sets**
Applied Mathematics and Statistics Student Seminar, JHU

Spring 2024   **Averaging and Extrapolation for Gradient Descent (and Other Topics in Performance Estimation)**
Mathematical Institute for Data Science Student Seminar, JHU

Fall 2023   **Averaging and Extrapolation for Gradient Descent**
Applied Mathematics and Statistics Student Seminar, JHU

TEACHING

Johns Hopkins University

Fall 2024   **Teaching Assistant** 553.701 Real Analysis

Spring 2024   **Teaching Assistant** 553.797 Control Theory and Optimal Control

Fall 2023   **Teaching Assistant** 553.701 Real Analysis

Fall 2022   **Teaching Assistant** 553.701 Real Analysis

Spring 2022   **Teaching Assistant** 553.600 Mathematical Modeling and Consulting

Spring 2022   **Teaching Assistant** 553.602 Research and Design in Applied Mathematics: Data Mining

Fall 2021   **Teaching Assistant** 553.636 Introduction to Data Science