BRYAN DAVID LAILEY

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Ailsa Craig, ON. N0M 1A0

AREAS OF EXPERTISE

Computing Skills: Experience in multiple programming languages, including Python, Matlab, and R; Proficiency in designing, implementing, and evaluating machine learning-based research using neural networks, support vector machines, and principal component analysis; Version control using Git; Experience working with large, noisy datasets.

Outstanding Written, Visual, and Oral Communication Skills: Experience in writing academic and non-academic papers, briefs, and posters; Exceptional information visualization skills using plots, custom graphics, and tables.

Project Management & Strategic Planning: Team lead, primary developer, and administrator of major multi-year research project; Able to effectively balance competing deadlines and maximize efficiency of team member contributions.

PROFESSIONAL EXPERIENCE

Lead Researcher: Applying Machine Learning to Be Star Research   2019-Present
Department of Physics & Astronomy, Western University, London, ON.
- Design, optimize, and test machine learning algorithms to evaluate their applications in computational astrophysics research.
- Developed a novel, machine learning-based technique to extract inclination angles

Laboratory Instructor   2019-Present
Department of Physics & Astronomy, Western University, London, ON.
- Demonstration of experiments and software to laboratory participants
- Provide expertise and problem-solving support while guiding experiments
- Supervision of undergraduate students in laboratory environment
- Assessment of the performance of students and submission of grades

Teaching Assistant   2021-Present
Department of Applied Mathematics; Department of Physics & Astronomy
Western University, London, ON. Canada
- Courses: Calculus for Engineers I, II, & III; Physics for the Sciences I & II; Stellar Properties; Planetary Systems
- Development of teaching materials and accessible resources for new learners
- Provide administrative and frontline support for Course Director by liaising with students and providing student feedback on learning directives
- Assessment of the performance of students and submission of grades

EDUCATION & PROFESSIONAL DEVELOPMENT

PhD   Western University   2021-Present
Physics & Astronomy
Supervisor: Dr. Aaron Sigut

MSc   Western University   2020
Physics & Astronomy
Supervisor: Dr. Aaron Sigut

BSc   York University   2019
Physics & Astronomy
Honours

Astrostatistics in Canada & Beyond   2023
Banff International Research Station for Mathematical Innovation & Discovery
Banff, BC. Canada

Scientific Programming with Python   2022
Department of Statistics, Western University, London, ON. Canada

Reproducibility Crisis in Machine Learning-Based Science Workshop   2022
Princeton University, NJ. USA

Astroinformatics Summer School   2022
Pennsylvania State University, PA. USA

R for Statistical Computing   2021
Sharcnet, ON. Canada

Astrostatistics Summer School   2021
Pennsylvania State University, PA. USA

Data Manipulation in R   2020
Department of Statistics, Western University, London, ON. Canada

Refresher of Statistics in R   2020
Department of Statistics, Western University, London, ON. Canada

Intermediate R   2020
Department of Statistics, Western University, London, ON. Canada