Lars van der Laan

Curriculum Vitae

General Information

- **Full Name**: Lars van der Laan
- **Date of Birth**: July 28, 1998
- **Languages**: English, Dutch, Spanish

Education

PhD in Statistics

- **Institution**: University of Washington, Seattle
- **Year**: 2021 - Current
- **Advisors**: Marco Carone, PhD; Alex Luedtke, PhD
- **Research Focus**: Semi/nonparametric statistics, debiased machine learning, shape-constrained inference, statistical learning and calibration theory for heterogeneous treatment effects.
- **Collaborations**: Actively collaborating with researchers at the Fred Hutchinson Research Center on projects related to causal inference and debiased machine learning.

MA in Statistics

- **Institution**: University of California, Berkeley
- **Year**: 2019 - 2020
- **Coursework**: Theoretical and applied statistics, object-oriented programming and software development in Python and Java, data analysis, and statistical computing in Python.
- **Capstone**: Industry application-oriented capstone project.

Double BSc in Mathematics and Physics

- **Institution**: University of Groningen, Netherlands
- **Year**: 2016 - 2019
- **Honors**: Graduated cum laude

Professional Experience

Research Assistant and Statistical Consultant

- **Institution**: School of Public Health, UC Berkeley
- **Year**: 2020 - 2021
- **Advisor**: Dr. Andres Cardenas
- **Responsibilities**: Led several statistical analyses in environmental epigenetics research, collaborated on impactful projects and contributed to published papers.

Summer Internship in Causal Inference and Survival Analysis

- **Institution**: Genentech
- **Year**: 2020
- **Advisor**: Dr. Jonathan Levy

- **Project**: Developed statistical software in R for causal inference in survival analysis using machine learning tools.

Intern and Research Assistant in Causal Inference for COVID-19 Vaccines

- **Institution**: Fred Hutchinson Research Center
- **Year**: 2020 - 2022
- **Advisor**: Dr. Peter B. Gilbert
- **Responsibilities**: Collaborated on research projects related to causal inference in COVID-19 vaccine trials, developed code pipelines, and co-authored publications in Biometrics, Science, and Nature.

Journals Reviewed/Refereed For

- Electronic Journal of Statistics (EJS)
- Journal of Machine Learning Research (JMLR)
- Journal of Causal Inference (JCI)

Invited Talks

1. **"Nonparametric inference on the causal effect of a stochastic threshold-based intervention"**
   - Event: Invited speaker for organized session on surrogate outcomes
   - Conference: Western North American Region of The International Biometric Society
   - Date: 2023
2. **"Causal Isotonic Calibration for Heterogeneous Treatment Effects"**
   - Event: Center for Causal Inference Seminar Series
   - Institution: University of Pennsylvania
   - Date: 2023
3. **"Causal Isotonic Calibration for Heterogeneous Treatment Effects"**
   - Event: Conference poster session
   - Conference: International Conference of Machine Learning (ICML)
   - Date: 2023

Skills

Programming Languages

- Proficient in Batchscript, Python, R, SQL, Java, and C++
- Object-oriented and functional programming paradigms
- Parallel computing techniques and cluster management

Data Analysis and Statistical Computing

- Data analysis and statistical computing in SQL, R, and Python
- Parallel computing in R and Python using Future and Dask
- Data cleaning in SQL, R, and Python
- High-performance computing in C++ with R integration

Software Ecosystems for Ensemble Learning and Causal Inference

- Proficient in the causal machine learning ecosystems for R and Python (tlverse and pyWhy)
- Ensemble Superlearning with sl3
- Dependent Task Parallelization with delayed

- Generalized Targeted/Debiased Machine Learning with tmle3
- Causal Machine Learning with EconML
- Causal Inference with doWhy

Communication Skills

- Excellent written and verbal communication skills
- Ability to present technical information clearly to diverse audiences

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Contact Information

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