MICHAEL PEARCE

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University of Washington, Department of Statistics
Padelford Hall, Box 354322

EDUCATION

University of Washington, Seattle, WA — Sept. 2018 - Present
Ph.D. (anticipated) in statistics
Advisor: Elena Erosheva
Primary research interests include model-based clustering and developing Bayesian statistical models for social science problems. Coursework in statistical inference, machine learning, nonparametric statistics, regression methods, statistical computing, statistical demography, and spatial statistics. Passed first-year theory exam (June 2019) and research preliminary exam (June 2020).

St. Olaf College, Northfield, MN — Sept. 2013 - May 2017
B.A. in mathematics; concentration in statistics
Graduated *summa cum laude*. Member of *Phi Beta Kappa* (liberal arts honor society); member and treasurer of *Pi Mu Epsilon* (mathematics honor society). Mentor for high school students from underrepresented communities through the TRiO Upward Bound program in Minneapolis and St. Paul public schools (2013-14 and 2014-15 academic years).

RESEARCH EXPERIENCE

Research Assistant — Sept. 2020 - Present
University of Washington - Department of Statistics
Simultaneous Score and Rank Data Mixture Modeling
Supervisor: Elena Erosheva

Research Assistant — Sept. 2019 - June 2020
University of Washington - Department of Statistics
Simulation Study of Nonparametric Clustering Methods
Supervisor: Werner Stuetzle

Statistical Fellow — Sept. 2016 - Sept. 2017
St. Olaf College - Center for Undergraduate Research
Unsupervised Algorithm for Increased Spatial Resolution in Molecular Tagging Velocimetry Images
Supervisors: Rodrigo Sanchez-Gonzalez and Matthew Richey

WORK EXPERIENCE

Boeing Research and Technology — June - Dec. 2019; June - Sept. 2020
Applied Statistics Intern

Performed research involving nonparametric statistics and design of experiments. Formulated, developed, and tested web-based statistical tools for company engineers. Consulted across the company, including end-to-end analysis and communication of findings.

Deloitte LLC — Oct. 2017 - Aug. 2018
Analytics Consultant

Verified the accuracy and completeness of complex statistical models using SAS, R, Python, and Excel for a global bank to ensure compliance with regulatory financial stress-testing. Analyzed anti-money laundering policy, practices, and legal requirements for a global bank, ultimately implementing changes to an existing customer on-boarding system.

SCHOLARLY PUBLICATIONS

Pearce, M.*, Sparrow, Z.*, Mabote, T. R., Sanchez-Gonzalez, R. (2020). "stoBEST: An efficient methodology for increased spatial resolution in two-component molecular tagging velocimetry." *Measurement Science and Technology* 32.3 (2020): 035302

Pearce, M. and Raftery, A.E. "Probabilistic forecasting of maximum human lifespan by 2100 using Bayesian population projections." *Demographic Research* 44.52 (2021): 1271–1294.

Pearce, M. and Erosheva, E.A. "A Unified Statistical Learning Model for Rankings and Scores with Application to Grant Panel Review." *Manuscript submitted for publication.*

**indicates authors contributed equally.*

OTHER PUBLICATIONS

Pearce, M. and Raftery, A.E. "The maximum human life span will likely increase this century, but not by more than a decade" *The Conversation* (2021).

Pearce, M. and Raftery, A.E. "Will this be a record-breaking century for human longevity?" *Significance* (2021).

SELECTED MEDIA COVERAGE

Washington Post "Want to add healthy years to your life? Here's what new longevity research says." (Oct. 11, 2021)

Southern Weekly (China) "What is the limit of human life span?" (Sept. 16, 2021)

CNBC "Researchers say the probability of living past 110 is on the rise — here's what you can do to get there" (July 17, 2021)

Elemental (Medium) "How Long Can Humans Really Live?" (July 15, 2021)

Gulf News "Surviving up to 150: How long can a person live?" (July 12, 2021

Indian Express "Can a person live to age 124, 135 or 150? Some optimism, some caveats" (July 6, 2021)

The South African "Rise of the supercentenarians: Today's kids could live for 130 years" (July 4, 2021)

UW News "How long can a person live? The 21st century may see a record-breaker" (July 1, 2021)

CONFERENCE PARTICIPATION

Working Group on Model-Based Clustering, Athens, Greece (virtual) October 2021
Unified latent class modeling of scores and rankings applied to grant panel review (poster session)

Joint Statistical Meetings, Seattle, WA (virtual) August 2021
Unified latent class modeling of score and rank data applied to grant panel review (speed session)

MAA MathFest, Chicago, IL July 2017
A new method for computational analysis of high-speed gas flows (Pi Mu Epsilon student paper session)

National Conference on Undergraduate Research, Memphis, TN April 2017
Analysis of high-speed gaseous flows using molecular tagging velocimetry and the Hough transform (poster presentation)

TEACHING AND MENTORSHIP

Dorothy M. Gilford Award Nov. 2021
University of Washington
For outstanding performance by a graduate teaching assistant during the prior year.

Washington eXperimental Mathematics Lab (WXML) Mentor
University of Washington
"Improving Panel Consensus Tool (ImPaCT)" Autumn 2021

Directed Reading Program Mentor
University of Washington
"Voting, Ranking, and Preference Modeling" Autumn 2021
"Nonlinear Regression" Winter 2020, Winter 2021, Spring 2021
"History and Practice of Data Communication" Autumn 2020

Teaching Assistant
University of Washington
Multivariate Data Analysis for the Social Sciences (CSSS 589) Autumn 2021
Applied Statistics Capstone (STAT 528) Winter 2021
Statistics and Philosophy of Voting (STAT 498 / CSSS 594) Autumn 2020
Elements of Statistical Methods (STAT 311) Autumn 2018, Winter 2019
Introduction to Probability and Mathematical Statistics III (STAT 342) Spring 2019
Statistical Reasoning (STAT 220) Autumn 2019

Supplemental Instruction Leader
St. Olaf College
Calculus II (MATH 126) Spring 2017
Modern Computational Mathematics (MATH 242) Spring 2017

READING GROUP AND LAB PARTICIPATION

Statistical and ML Methodology for the Social Sciences Working Group Apr. 2021 - Present
Applied Bayesian and Computational (ABC) Statistics Working Group Sept. 2019 - Present
Statistics Education Reading Group Sept. 2019 - Present
Statistical Learning Applied to Biostatistics (SLAB) Lab Sept. 2019 - March 2020
Space-Time Reading Group Jan. - May 2019

DEPARTMENTAL SERVICE

Undergraduate Statistics Degree Program Revamp Committee Sept. 2021 - Present
Diversity, Inclusion, Community, and Equity (DICE) Committee Sept. 2020 - Present

SKILLS

Programming R (fluent), Python (proficient)