MICHAEL SEO

PhD Student in Biostatistics

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EXPERIENCE

PhD Student in Biostatistics

Institute of Social and Preventive Medicine, University of bern

2019 – Present Bern, Switzerland

- Developed models that combine individual patient data from randomized controlled trials and non-randomized studies when aiming to predict outcomes for a set of competing medical interventions applied in real-world clinical settings.
- Compared in simulations the standard approach to individual patient data meta-analysis (no variable selection, all treatment-covariate interactions included in the model) with six alternative methods: stepwise regression, and five regression methods that perform shrinkage on treatment-covariate interactions, that is, LASSO, ridge, adaptive LASSO, Bayesian LASSO, and stochastic search variable selection.

Biostatistician

LLX Solutions

2018 - 2019 Waltham, MA

- Served as a Biostatistics lead to support the development of protocols, statistical analysis plans, and statistical analysis for new drug clinical trials.

Research Associate

Center for Evidence Synthesis in Health, Brown University

2015 - 2018 Providence, RI

- Finished PhD level coursework as a PhD student in Biostatistics.
- Developed an R package for Bayesian network meta-analysis which allows simulataneous comparison of multiple treatments.
- Developed a statistical tool to analyze single patient (N of 1) trial and applied it to determine the effectiveness of carbohydrate diet for patients with inflmmatory bowel disease.

Quantitative Analyst

In4mation Insights

2015 Summer Boston, MA

- Analyzed the intent and behavior questionnaires from Altria and developed a ranking system for their e-vapor products.

Research Assistant

Department of Statistics, Stanford University

2014 - 2015 Stanford, CA

- Developed a Shiny-based web interface to the Statistical Analysis of Microarrays (SAM) and Prediction Analysis of Microarrays (PAM) packages.

R PACKAGES

- **Michael Seo** and Christopher Schmid (2020). bnma: Bayesian Network Meta-Analysis using 'JAGS'. R package version 1.4.0. https://CRAN.R-project.org/package=bnma.
- R. Tibshirani, **Michael J. Seo**, G. Chu, Balasubramanian Narasimhan and Jun Li (2018). samr: SAM: Significance Analysis of Microarrays. R package version 3.0. https://CRAN.R-project.org/package=samr.

EDUCATION

Ph.D. Biostatistics

University of Bern

2019 - 2022 (Expected)

M.S. Statistics

Stanford University

2012 - 2014 Stanford, CA

- GPA: 3.7/4.0

B.S. Statistics

Duke University

2007 - 2011 Durham, NC

- GPA: 3.7/4.0
- Graduation with High Distinction

SELECTED PUBLICATIONS

- **Seo M**, Debray TPA, Ruffieux Y, Gsteiger S, Bujkiewicz S, Finckh A, Egger M, Efthimiou O (Submitted). Combining individual patient data from randomized and non-randomized studies to predict real-world effectiveness of interventions.
- **Seo M**, White IR, Furukawa TA, Imai H, Valgimigli M, Egger M, Zwahlen M, Efthimiou O (2021). Comparing methods for estimating patient-specific treatment effects in individual patient data meta-analysis. *Statistics in Medicine*, 40, 1553-1573.
- **Seo M**, Furukawa TA, Veroniki AA, Pillinger T, Tomlinson A, Salanti G, Cipriani A, Efthimiou O (2021). The Kilim plot: A tool for visualizing network meta-analysis results for multiple outcomes. *Research Synthesis Methods*, 12, 86-95.

PROGRAMMING

R Python SAS SQL

LANGUAGE

Korean
English

CITIZENSHIP

USA