

# 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.
- 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.

### 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 simultaneous 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 inflammatory 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

📍 Bern, Switzerland

### 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

## LANGUAGES

Korean  
English



## CITIZENSHIP

USA