Jonathan Luu

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Education

Harvard University, Graduate School of Arts and Sciences — Boston, MA
PhD, Biostatistics — May 2024

University of Southern California, Keck School of Medicine — Los Angeles, CA
MS, Biostatistics — May 2019

University of Southern California, Viterbi School of Engineering — Los Angeles, CA
BS, Computer Science & Computer Engineering — May 2017

Research Experience

Expanding the two-part model for clustered semi-continuous data 2023
- Developed Bayesian model to efficiently analyze cost and healthcare utilization data in nursing homes
- Applied model and metrics to Medicare data consisting of 20 million nursing home residents

Addressing incomplete and missing electronic health records data in implementation science 2022
- Characterized and quantified missing data in EHR databases maintained by community health centers

HaSET program: Analyzing stunting of newborns in Ethiopia 2022
- Analyzed data with significant measurement error to approximate prevalence of stunting in Ethiopia

Duration of viral shedding and culture positivity with post-vaccination breakthrough delta variant infections 2021
- Collected viral load and culture samples from MGH employees who tested positive for SARS-CoV-2
- Performed survival analysis and a spline predictive analysis on the data

Estimating the treatment effect in randomized trials with correlated time-to-event outcomes 2020
- Simulated and compared three analysis methods for cluster randomized clinical trials

LOFT-HF sample size re-estimation 2020
- Re-estimated sample size for the LOFT-HF trial using blinded aggregate data

A phase I/II study of E7389 Halichondrin B analog in metastatic urothelial tract cancer and renal insufficiency 2019
- Produced Kaplan-Meier plots, response and toxicity tables, and baseline statistics for DSMC report
- Analyzed data using multivariate Cox regression for progression-free and overall survival

A simulation evaluation of the effectiveness and usability of the 3+3 design for phase I clinical trials 2019
- Compared the 3+3 algorithm for phase I RCTs with more sophisticated methods through simulation

Work Experience

Exploring correlation between surrogate endpoints and overall survival in cancer trials 2023
- Compared several correlation coefficients to determine validity of surrogate endpoints for overall survival
- Ran models stratified by indication and treatment type to quantify correlated relationship further

Vaccine hesitancy among Latinx adults - a cluster-randomized crossover trial 2023
- Ran multiple-period cluster-randomized crossover trial to test the effectiveness of motivational interviewing and behavioral health services on COVID-19 vaccine uptake among Latinx adults

Expanding access to home-based palliative care: a randomized controlled trial protocol 2018
- Initiated and monitored REDCap database to collect data for the trial
- Summarized demographics, ineligibility criteria, and patient concerns to present to funding agencies

Teaching Experience

Teaching Assistant
- Applied Survival Analysis (BST223) 2021-2023
- Intro to Data Science (BST260), Survival Methods in Clinical Research (BST224) 2020-2022

Biostatistics Consulting Center 2021-2022
- Consulted clients on study design, analysis planning, and programming

StatStart 2021-2023
- Taught R programming and basic statistics to high school students through a summer project

Skills

Programming (from most proficient to least): C++, Java, R, Python, SAS, HTML/CSS, Stata, C, C#, Ruby, Julia, Stan