

FAHAD KAMRAN

Ph.D. Candidate

Computer Science and Engineering
University of Michigan

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RESEARCH INTERESTS

My research is at the intersection of machine learning and healthcare. I am interested identifying challenges preventing the use of machine learning in real clinical applications and building novel solutions to tackle these problems, particularly in the fields of causal inference and survival analysis. I also work in combining of machine learning and data from wearable sensors to detect and prevent physiological harm, using of electronic health record (EHR) data to improve patient care across a multitude of settings and diseases, including COVID-19 and Sepsis, and sports analytics.

EDUCATION

University of Michigan

Ann Arbor, MI, USA

Ph.D. Candidate in Computer Science and Engineering (CSE)

Sep 2018–Present

GPA: 4.0/4.0

Thesis Topic: Learning From Observational Healthcare Data in Survival Analysis and Causal Inference

Advisor: Prof. Jenna Wiens

University of California, Berkeley

Berkeley, CA, USA

B.A. in Computer Science, Mathematics, and Statistics

Sep 2014–May 2018

GPA: 3.80/4.0

Research Advisor: Prof. Stuart Russell

PEER-REVIEWED PUBLICATIONS

1. **Fahad Kamran**, Kathryn Harrold, Jonathan Zwier, Wendy Carender, Tian Bao, Kathleen H Sienko, Jenna Wiens. “Automatically evaluating balance using machine learning and data from a single inertial measurement unit.” In *Journal of NeuroEngineering and Rehabilitation*. 2021.
2. Karandeep Singh, Thomas S Valley, Shengpu Tang, Benjamin Y Li, **Fahad Kamran**, Michael W Sjoding, Jenna Wiens, Erkin Otles, John P Donnelly, Melissa Y Wei, Jonathon P McBride, Jie Cao, Carleen Penzoza, John Z Ayanian, Brahmajee K Nallamothu. “Evaluating a widely implemented proprietary deterioration index model among hospitalized patients with COVID-19.” In *Annals of the American Thoracic Society*. 2021.
3. **Fahad Kamran**, Jenna Wiens. “Estimating Calibrated Individualized Survival Curves with Deep Learning.” In *Proceedings of the AAAI Conference on Artificial Intelligence*. 2021.
4. Jeremiah Hauth, Safa Jabri, **Fahad Kamran**, Eyoel W Feleke, Kaleab Nigusie, Lauro V Ojeda, Shirley Handelzalts, Linda Nyquist, Neil B Alexander, Xun Huan, Jenna Wiens, Kathleen H Sienko. “Automated loss-of-balance event identification in older adults at risk of falls during real-world walking using wearable inertial measurement units.” In *Sensors*. 2021.
5. **Fahad Kamran**, Victor C Le, Adam Frischknecht, Jenna Wiens, Kathleen H Sienko. “Noninvasive Estimation of Hydration Status in Athletes Using Wearable Sensors and a Data-Driven Approach Based on Orthostatic Changes.” In *Sensors*. 2021.
6. Caleb Belth, **Fahad Kamran**, Donna Tjandra, Danai Koutra. “When to remember where you came from: node representation learning in higher-order networks.” In *International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*. 2019.

AWARDS AND HONORS

Service Award for Excellence in Climate, Diversity, Equity, and Inclusion; Univ. of Michigan CSE	2020
Campus Outstanding GSI Award; Univ. of California, Berkeley	2019
Computer Science Outstanding Teaching and Leadership Award; Univ. of California, Berkeley	2019

EMPLOYMENT

84.51°	<i>Cincinnati, OH, USA</i>
<i>Data Analyst</i>	Jun 2017–Aug 2017
Worked on utilizing machine learning to analyze purchase patterns and target coupons to interested customers.	
Used natural language processing to understand customer sentiment towards Kroger stores across the nation.	

TEACHING

Introduction to Artificial Intelligence (EECS 492)	<i>Ann Arbor, MI, USA</i>
GSI for Prof. Emily Mower Provost in undergraduate course at the University of Michigan	Aug 2019–Dec 2019
Foundations of Data Science (Data 8)	<i>Berkeley, CA, USA</i>
Course Instructor for undergraduate course at University of California, Berkeley	May 2018–Aug 2018
Foundations of Data Science (Data 8)	<i>Berkeley, CA, USA</i>
Head Teaching Assistant for Profs. Ani Adhikari, David Wagner, and John DeNero in undergraduate course at University of California, Berkeley	Jan 2016–May 2016; Aug 2016–Dec 2016; Aug 2017–May 2018
Data Structures and Algorithms (CS 61B)	<i>Berkeley, CA, USA</i>
Teaching Assistant for Prof. Josh Hug in undergraduate course at University of California, Berkeley	Jan 2017–May 2017
Introduction to Artificial Intelligence (CS 188)	<i>Berkeley, CA, USA</i>
Teaching Assistant for Jacob Andreas and Davis Foote in undergraduate course at University of California, Berkeley	May 2016–Aug 2016

PROFESSIONAL ACTIVITIES

CSEG Wellness President	<i>Ann Arbor, MI, USA</i>
Organize wellness events for UMich CSE graduate student organization (CSEG)	Jun 2020–Present
CSEG President	<i>Ann Arbor, MI, USA</i>
Manage leadership of CSEG and represent CSE graduate students	Jun 2020–Sept 2021
CSEG Relations Chair	<i>Ann Arbor, MI, USA</i>
Communicate with department leadership, faculty, and company sponsors on behalf of CSE graduate students	Jun 2020–Sept 2021
CSEG Tea Chair	<i>Ann Arbor, MI, USA</i>
Held social events for CSEG	May 2019–May 2020
Explore Graduate Studies Volunteer	<i>Ann Arbor, MI, USA</i>
Advised prospective students about graduate studies in computer science	Oct 2018, Oct 2019
Lunch and Lab with a Grad Mentor Program Volunteer	<i>Ann Arbor, MI, USA</i>
Mentored a student on how to prepare for graduate school in computer science	Sep 2019
Graduate Admissions Recruit@Home Speaker	<i>Berkeley, CA, USA</i>

Gave a recruitment talk at University of California, Berkeley of behalf of UMich CSE	Sep 2019
Big Data Summer Institute Lecturer	<i>Ann Arbor, MI, USA</i>
Created and delivered data science lectures to public health undergraduate students	July 2019, July 2021
Computer Science Mentors President	<i>Berkeley, CA, USA</i>
Managed large scale mentoring for introductory computer science courses	June 2016–May 2017
Peer Advisor	<i>Berkeley, CA, USA</i>
Held advising sessions for students interested in a mathematics degree	June 2016–May 2017
Computer Science Mentors Secretary	<i>Berkeley, CA, USA</i>
Assisted in communications for mentoring organization	June 2015–May 2016

TECHNICAL SKILLS

Programming Languages: Fluent in Python, Java, R, and SQL

LANGUAGES

English: native

Urdu: advanced proficiency

Spanish: moderate proficiency