Sanja Avramovic, PhD

Assistant Professor, Department of Health Administration and Policy
Machine Learning and Inference Laboratory | Center for Discovery Science and Health Informatics

Education
PhD, Information Technology, George Mason University

Key Interests

Big Data | Health Informatics | Data Mining | Artificial Intelligence | Machine Learning | Predictive Modeling

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SELECT PUBLICATIONS

> S. Avramovic *et al.*, The Side Out Foundation metastatic breast cancer database, an open-access portal for multi-omics molecular data and more. *Reports of the Machine Learning and Inference Laboratory* MLI 18-2 (2018).

> P. J. Davis *et al.*, HbA1c, lipid profiles and risk of incident Type 2 Diabetes in United States veterans. *PloS one* 13(9), e0203484 (2018).

> H. J. Appaneal *et al.*, Predictors of mortality among a national cohort of veterans with recurrent *Clostridium difficile* infection. *Open Forum Infectious Diseases* (2018).

> F. Alemi *et al.*, EHR-based screening for substance and prescription abuse. *Big Data* 6(3), 214-224 (2018).

Research Focus
My research interest is in big data and health informatics. My primary focus is developing algorithms which optimize data analysis and predictive modeling using electronic health records (EHR). One project examines the association of antibiotics and hemoglobin A1c (HbA1c) with mortality. Another project concerns diabetes, obesity and the discordance between county-level diabetes and obesity prevalence among veterans. I am also developing tools which can predict short- and long-term risk of mortality. My other research interests include examining outcomes associated with *Clostridium difficile* infection and developing a decision support tool for early identification of Alzheimer's disease in a pre-clinical stage.

Current Projects

■ Impact of Community Factors on Geographic Disparities in Diabetes and Obesity Nationwide: Examination of the relationship between key community factors pertaining to the food and housing environment and 3 outcomes: diabetes, obesity and discordance between county-level diabetes and obesity prevalence.

■ Association Between Infections and Alzheimer's Disease: The goal of the project is to break new ground in specifying the potential risk of Alzheimer's disease and distinguish the impact of infections on the disease.

■ The Side Out Foundation Metastatic Breast Cancer Database, an Open-access Portal for "multi-mics" Molecular Data and More: Developing a database and a portal to record information collected through the clinical trials.