Suggested Readings at the Intersection of Machine Learning and Epidemiology

*In no particular order*

Shmueli G. To explain or to predict? Statistical science 2010; 25:289-310.

Keil AP and Edwards JK. You are smarter than you think: (super) machine learning in context. European Journal of Epidemiology 2018; 33:437-440

Chiavegatto Filho ADP, Dos Santos HG, do Nascimento CF, Massa K, Kawachi I. Overachieving municipalities in public health: A machine learning approach. Epidemiology 2018; 29:836-40.

Mooney SJ and Pejaver V. Big Data in Public Health: Terminology, machine learning and privacy. Annual Review of Public Health 2018; 39:95-112.

Obermeyter Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations. Science 2019; 366:447-453.

Touw WG, Bayjanov, Overmars L, Backus L. et al. Data mining in the life sciences with random forest: a walk in the park or lost in the jungle? Brief Bioinformatics 2013; 14:315-326.

Oquendo MA, Baca-Garcia E, Artes-Rodriguez A, Perez-Cruz F. et al Machine learning and data mining: strategies for hypothesis generation. Molecular Psychiatry 2012; 17:956-959.

Platt RW, Grandi SM. Machine learning for the prediction of postpartum complications is promising, but needs rigorous evaluation BJOG 2019; 126:710.

Lazer D, Kennedy R, King G, Vespignani A. The parable of Google Flu: Traps in Big Data Analysis. Science 2014; 343:1203-1205.

Westreich D, Lessler J, Funk M. Propensity score estimation: neural networks, support vector machines, decision trees (CART) and meta-classifiers as alternatives to logistic regression. J Clin Epidemiol 2010; 63:826-33.

Naimi AI, Platt RW, Larkin JC. Machine learning for fetal growth prediction. Epidemiology 2018; 29:290-298.

A picture tells a thousand…exposures: Opportunities and challenges of deep learning image analysis in exposure science and environmental epidemiology. Environment International 2019; 122:3-10.

Blakely T, Lynch J, Simons K, Bentley R, Rose S. Reflecting on modern methods: when worlds collide-prediction, machine learning and causal inference. Int J Epi 2019; doi:10.1093/ije/dyz132.