

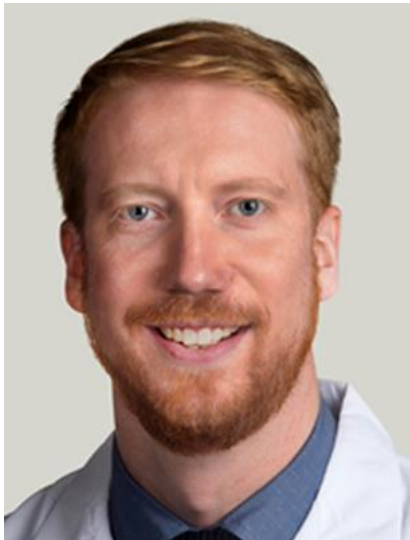
KEYNOTE TALK

Saturday, October 10, 2020 at 9:00am

Deep Learning for Clinically Actionable Cancer Pathology Feature Detection

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Abstract: An immense amount of information is stored in the spatial information of tumor histology. Access to contemporary neural network architecture, the decreasing cost of hardware, and the immense amount of available pathologic and genomic data have contributed to rapid innovation in digital pathology analysis. We will describe the basics of deep learning and how it can readily be applied to histology data. We will further describe specific applications to clinical oncology, including defining molecular treatment targets directly from histology. Finally we will discuss the state of the field, and barriers and opportunities for wide deployment of deep learning in our healthcare system.



Speaker Bio-Sketch: Dr. Alexander Pearson is a quantitative scientist, medical oncologist, and director of the head/neck cancer program at the University of Chicago. Dr. Pearson completed a combined MD and PhD program at the University of Rochester, where he won the American Statistical Association Computational Award for his statistics PhD dissertation work. He then completed his clinical training in the University of Michigan Physician Scientist Training Program where he completed a combined a post doc with mathematician Dr. Trachette Jackson and Cancer Biologist Dr. Jacques Nor. Dr. Pearson joined the University of Chicago to establish his laboratory in 2017. Dr. Pearson's lab at the University of Chicago has a combined focus on integrating cancer biology techniques into mathematical modeling frameworks as well as using machine learning for head/neck cancer characterization. In 2019 Dr. Pearson was named a HemOnc Today Next Gen Innovator, a 40 under 40 Chicago Scientist, and was awarded the ACCRF Kara Gelb Memorial Award for early-career investigators.