



### **Transformers: Rise of the Attention-based Network**

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A peptides ion mobility (IM) represents its gas-phase structure and can be utilized to improve database search methods. Accurately predicting a peptide IM is difficult due to complex sequence-specific interactions. This talk will demonstrate the advantages that the Transformer architecture poses for IM prediction, as well as introduce TimsScore: an IM-aware search algorithm.

Patrick (Ty) Garret is a graduate student in laboratory of Dr. John Yates at the Scripps Research Institute (TSRI). He received his undergraduate degree from the University of California San Diego, with a focus in Cognitive Science: Machine Learning and Neural Computation and minored in Computer Science. Patrick joined the Yates Lab late 2019 and has since worked on a wide variety of research projects. Most notably, in collaboration with Robin Park and Bruker, he developed an early implementation of PaSER as well as competitive machine learning models for predicting retention time, ion mobility, and fragment ion intensities.