PROGNOSTIC APPLICATION IN ALZHEIMER'S DISEASE USING MR IMAGING AND MACHINE-LEARNING

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BIO

Nikhil Bhagwat completed his Master's degree in Electrical Engineering from George Mason University. He then received his PhD degree from the Institute of Biomaterials & Biomedical Engineering, University of Toronto in November 2018. In his thesis, he worked on prognostic applications for Alzheimer's disease using MR imaging and machine-learning techniques. He was awarded Alzheimer Society Research Program doctoral fellowship for his research. Currently, he works on adaptation of machine-learning techniques for large-scale neuroimaging data analysis in an effort to develop novel clinical tools for tackling neurodegenerative diseases. He also supports several open science initiatives, and works on building resources to improve reproducibility of computational workflows.

ABSTRACT

In this talk, I will describe my recent work on prognostic tool development for Alzheimer's disease (AD) using magnetic resonance (MR) imaging and machine-learning. AD, the most common form of dementia, is a neurodegenerative disorder that leads to memory impairment and cognitive deficits. MR imaging biomarkers can improve our understanding of etiology and progression of the disease symptomatology. Furthermore, machine-learning tools can assist clinicians in decision-making pertaining to patient monitoring, intervention, and treatment selection. In the context of this work, I will discuss challenges conducting translational research in computational neuroscience along with exciting opportunities present today with recent technological advances in neuroimaging and machine-learning.

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