Ailin (Irene) Song, MD
Personal Statement

I am an aspiring clinician-scientist in comprehensive ophthalmology whose research leverages big data and artificial intelligence to elucidate the epidemiology of common eye conditions and to strengthen the evidence base for comparative effectiveness in our field. Using nationwide electronic health record platforms, registries, claims databases, and large imaging datasets, I aim to generate rigorous observational evidence through methods such as target trial emulation and to translate those insights into care delivery models that measurably improve eye care outcomes. My training has prepared me well for this path. I have authored more than 20 peer-reviewed publications, including 13 as first author, and I have been fortunate to secure competitive research funding including the Research to Prevent Blindness Medical Student Eye Research Fellowship and the NIH-Duke CTSA TL1 Pre-Doctoral Scholarship. I have developed deep expertise in artificial intelligence, including developing and evaluating a novel AI system for automated detection of posterior segment pathology from robotically acquired OCT imaging in the emergency department. I also have extensive experience in the use of large clinical research databases such as Epic Cosmos and the NIH All of Us Research Program, which I have applied to questions ranging from the safety of topical anesthetics for corneal abrasion to the risk of ischemic optic neuropathy after cataract surgery. I intend to submit an NEI K23 application during my final year of residency, timed to the start of my first faculty appointment in academic year 2027–2028, during which I hope to build a comprehensive ophthalmology practice alongside a funded research program. The Heed Residents Retreat presents the ideal forum to learn from faculty who have navigated the trainee-to-academician transition, and I would be honored to participate.