Dr. Song's research interests are in biomedical informatics, machine learning and statistical learning algorithms, data mining and knowledge discovery. Her long-term research goal is to develop computational algorithms to discover clinically meaningful knowledge from real-world healthcare databases with "data" at the center. She has led the PCORnet Greater Plains Collaborative Reusable Observable Unified Study Environment (GROUSE) project since 2020, which involves establishing a new cloud-based hosting environment with scalable, HIPAA-compliant infrastructure and ongoing data enrichment initiatives. She is currently PI of CDC-funded project to better understand amyotrophic lateral sclerosis (ALS) using multi-marker discovery algorithms and multi-modal data sources, as well as site PI on multiple NIH-, DOD-funded projects leveraging the GPC and GROUSE infrastructure and real-world data science to better understand disease and care pathways.