



**RASHMEE SHAH, MD**

*UNIVERSITY OF UTAH | UNITED STATES*

*SPECIALTY: GENERAL CARDIOLOGY*

Rashmee Shah, MD, MS is a cardiologist and data scientist whose research program focuses on applied biomedical informatics methods and artificial intelligence (AI) approaches to answer clinically important questions. Using large, complex clinical datasets like electronic medical records (EMR) for outcomes research is a daunting challenge. Beyond predicting outcomes, Dr. Shah's research (including two NIH awards as Principal Investigator) seeks to understand relationships between clinical variables and outcomes in the context of atrial fibrillation (AF).

Dr. Shah's group developed a machine learning algorithm that processes clinical notes and identifies AF patients with 93% sensitivity and 89% specificity, as well as a classifier to extract critical features (e.g. CHA2DS2-VASc score). Building upon these successes, Dr. Shah is preparing a NIH proposal to leverage these computable phenotypes for prediction and discovery, using Bayesian networks, an 'explainable' AI method. Specifically, Dr. Shah and associates will design a model to predict and understand AF therapy failures, using 5 million longitudinal blood pressure and heart rate measures curated from the EMR. In the future, Dr. Shah plans to build on these models with additional biomarker data to move closer to precision medicine. Dr. Shah's work also focuses on comparing the effectiveness of rate versus rhythm control and anticoagulation strategies among cancer patients with AF, using our AI-based methods in support of subsequent pragmatic clinical trials.

Dr. Shah's career goals are to become (1) a leading expert in the field of big data science and cardiovascular disease; (2) a successful mentor for junior researchers; and (3) to create technologies that equitably reduce the burden of cardiovascular disease amongst all patients.