Medical imaging is an exploding field, with images in fields such as radiology, pathology, and ophthalmology exploding at a pace that challenges physicians who interpret them to optimally use them in clinical care and research. Imaging is key area of opportunity for data-driven approaches for computers to catalyze discovery and improve patient care. Recent advancements in artificial intelligence (AI) bring particularly exciting opportunities to accelerating research and to create decision support applications. In this talk I will highlight some of the exciting frontiers in AI in medical imaging and the implications for data-driven medicine.