# Ultrafast Imaging Enabled by Spatiotemporal Encoding

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**Abstract:** High speed optical imaging is a critical tool for the observation of transient, nonrepeatable phenomena. In this talk, we discuss our recent progress on a spatiotemporally encoded ultrafast imaging system. Our approach involves recording of ultrafast events encoded using nano – scribed spatiotemporal masks on a slow camera. The captured data is then reconstructed into a sequence of ultrafast frames via a U – net based deep learning model. We will present both simulation and experimental results.