The power grid has been undergoing major transformation with the increasing integration of Distributed Energy Resources (DERs), including solar and wind sources, energy storage, and microgrid technologies. These DER networks are increasingly relied on advanced sensors, edge computing, wide area communication, cloud infrastructures, and ML-based analytics – in the form of Industrial Internet of Things (IIoT) – for real-time monitoring and control applications. Secure and resilient operation of these IIoT networks is of paramount importance to the secure and reliable operation of the DER-integrated smart grid. In this talk, we first present cybersecurity issues and challenges for DER networks. Then, present two case studies of our research in cybersecurity for DER networks, namely, (i) a 2-tier architecture and ML-based algorithms for cybersecurity situational awareness, and (ii) a Moving Target Defense (MTD)-based technique for attack surface reduction. We finally conclude the talk with some directions future research. The research presented in this talk is funded in part by the DOE SETO program.