Abstract: Visual object tracking is one of the most fundamental problems in computer vision and has a long list of applications such as video surveillance, human-machine interaction, robotics, etc. Despite great progress made in recent decades, developing a real-time and high accuracy tracker remains challenging.

In this talk, I will first introduce some background of visual object tracking, including its applications and challenges. Afterwards, I will talk about three of my research projects on visual tracking. In specific, I will first introduce a novel tracking framework that seeks a trade-off between accuracy and speed from a novel perspective. Then, I investigate the problems existing in the recent Siamese network-based trackers and propose a novel cascade strategy to address these issues. Next, I will talk about a high-quality tracking benchmark that aims to provide a dedicated platform for training data-hungry deep trackers as well as assessing long-term tracking performance. In the end, I will give a brief summary of other research beyond visual tracking and future work.

Bio: Heng Fan is currently a Ph.D. candidate in the Department of Computer Science at Stony Brook University, Stony Brook, NY. His research interests include computer vision and machine learning, such as visual object tracking, semantic segmentation and object detection. His work has been published in high-impact conferences (e.g., CVPR, ICCV, AAAI, WACV, etc.) and journals (IJCV, T-IP, T-CSVT, T-ITS, etc.). He was a receipt of national scholarships in his graduate and undergraduate studies in 2015 and 2011. He won the second prize in nation-level Mathematical Contest in Modeling for graduate in 2013 and the second prize in Hubei College Mathematic Contest in Modeling in 2012.