



**Integration of Deep Learning into the factory**  
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Visual inspection is an important quality gauge for semiconductor manufacturing. There are hundreds of visual inspection steps in the factory, generating millions of images on a daily basis. Current human inspection does not review all these steps due to low reviewing speed, accuracy, consistency, etc. Integrating state-of-the-art machine learning (ML) techniques to automate visual inspection steps provides better coverage on existing steps, improves speed and accuracy, which consequently improves yield, cycle time. The ML piece is critical, but is not the only piece of the puzzle. The speaker will talk about the importance of the whole image inspection ecosystem, including image storage, application interface to incorporate human feedback in retraining the model, modeling techniques, and factory control system integration. Some learnings on what worked/did not work, and next steps will also be discussed.