

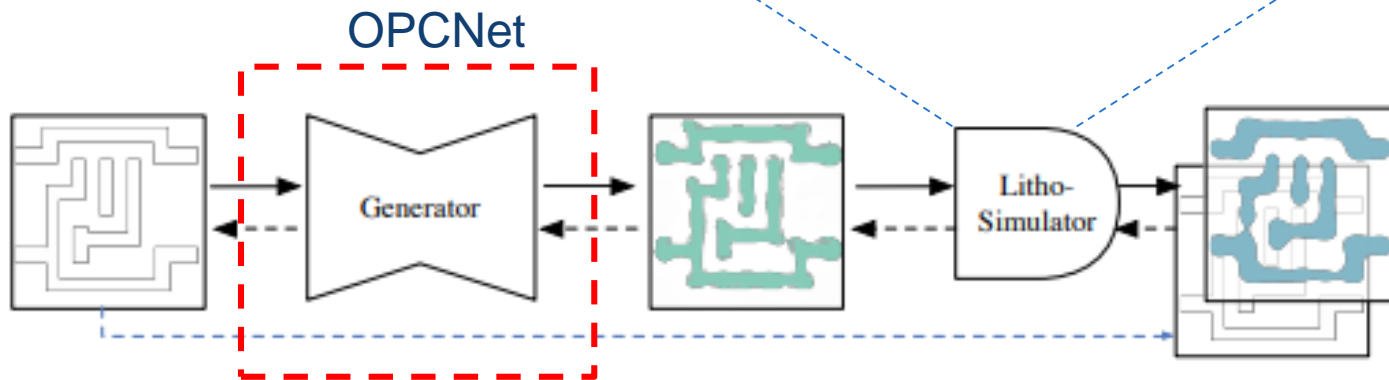
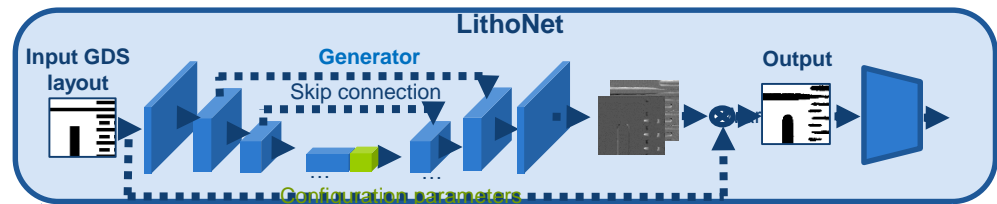
AI Research Topics (林嘉文)

❖ Deep Learning-Based Computer Vision

- Deep Learning-Based IC Fabrication Prediction (UMC)
- Retinal Image Analysis for Diabetes Eye Diseases (ITRI)
- Identity-Preserving Face Processing (LiteOn)
- Person Re-identification (MOST AI)
- Computer Vision for Smart Phones (Qualcomm)



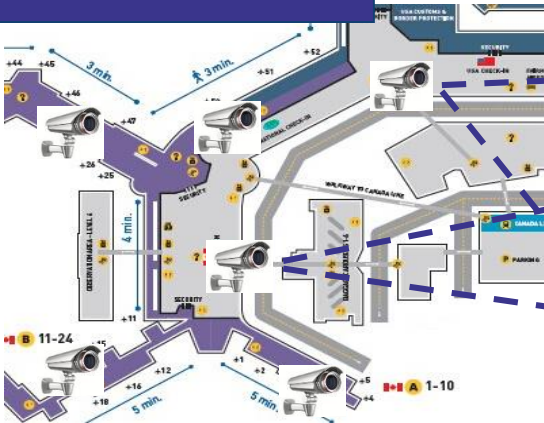
Deep Learning-Based IC Fabrication Prediction



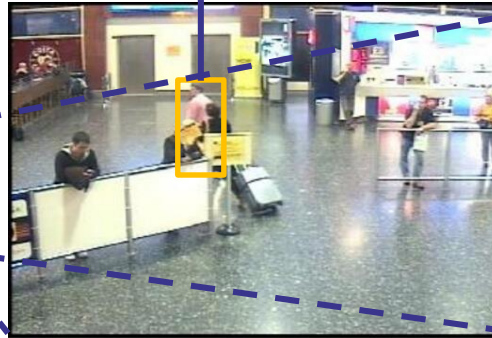
AI Research Topics (林嘉文)



Person Re-ID



The same?



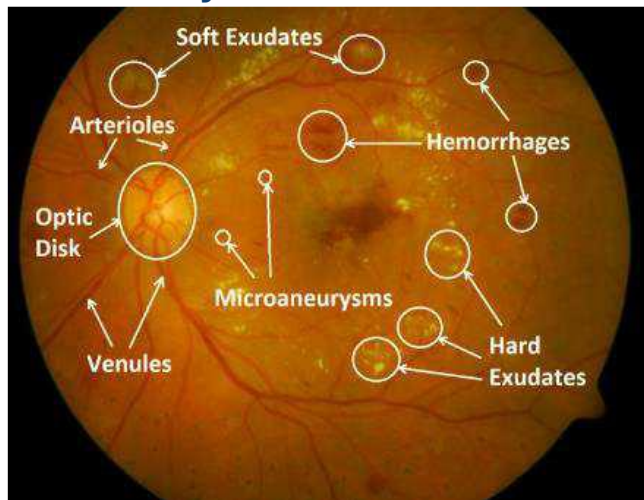
Camera a



Camera b



Diabetes Eye Disease Detection



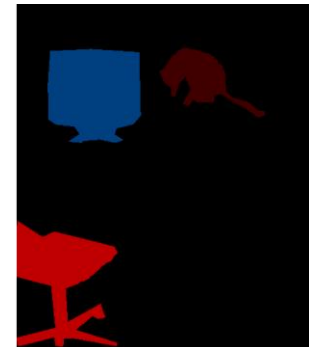
Low-Shot Learning for Smart Phone Vision



Input



Novel Class



Result

AI Research Topics (林嘉文)

Tiny Face Detection



- 76 Ground Truth
- 29 High Confidence
- 3 Recognized Face
GT IoU ≥ 0.5
- 7 Recognized Face
GT IoU ≤ 0.5

Face Hallucination



| Methods | 8 × 8 to 32 × 32 | 16 × 16 to 64 × 64 |
|------------------|------------------|--------------------|
| HR | 83.3% | 92.7% |
| LR | 64.1% | 64.3% |
| Bicubic | 64.8% | 63.7% |
| SiGAN (proposed) | 80.1% | 81.9% |

Face Deshading



Face Frontalization

Faces with illumination and pose changes

