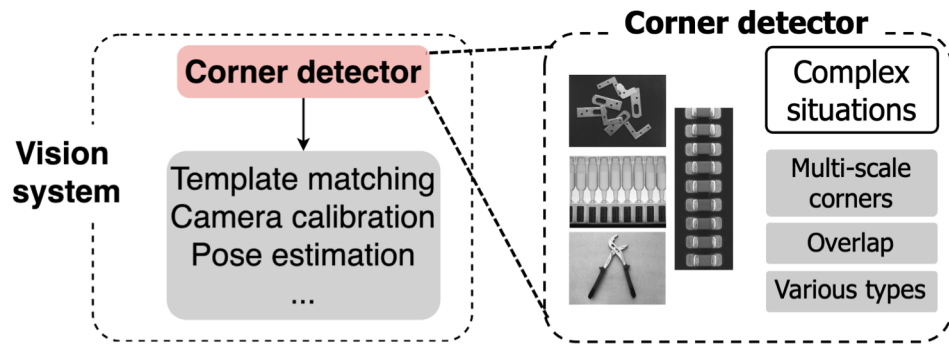


# Scan and Inheritance Architecture with Top and Bottom Apex Detection for High Frame Rate and Ultra-low Delay Corner Detection

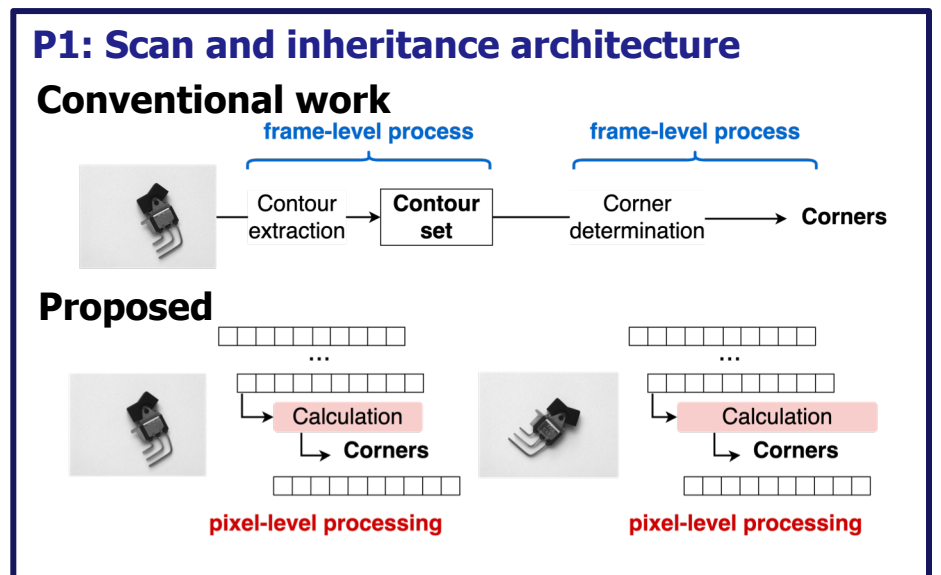
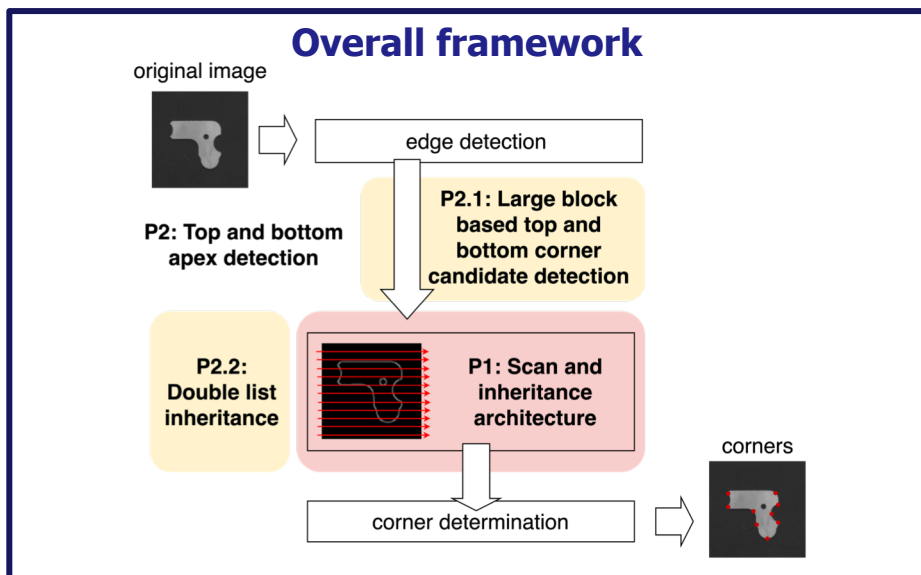
張航 池永研究室 修士課程修了

## Background

- High frame rate and ultra-low delay vision system in FA
  - Accurate operation
  - Less human labor
  - Fast assembly

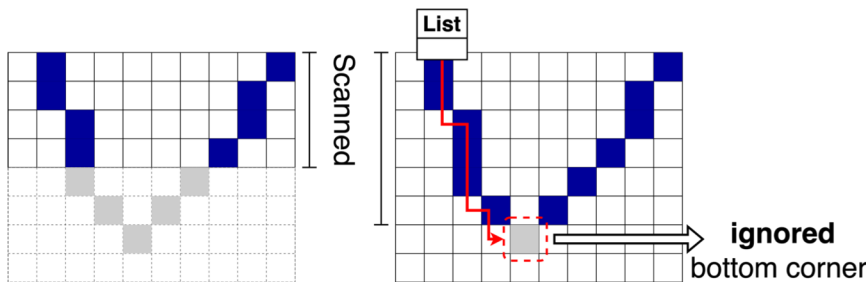


## Proposed method

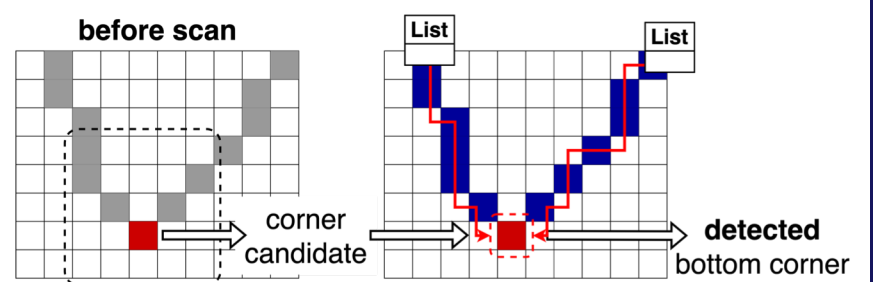


## P2: Top and bottom apex detection

### Without P2:



### P2:



## Experiments Result

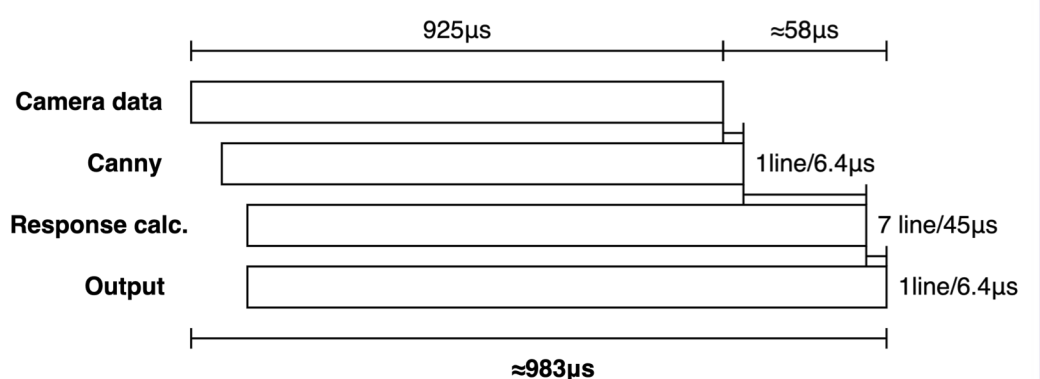
### Algorithm evaluation

	Average repeatability	Localization error
CTAR	0.529289	1.01506
Proposed	0.520115	1.21346

### Hardware resource utilization

Resource	Usage
LUT	45.91
FF	38.32
BRAM	4.65
IO	15.00

### Delay analysis



## Conclusion

- Hardware-friendly contour-based corner detection algorithm for high frame rate and ultra-low delay system

