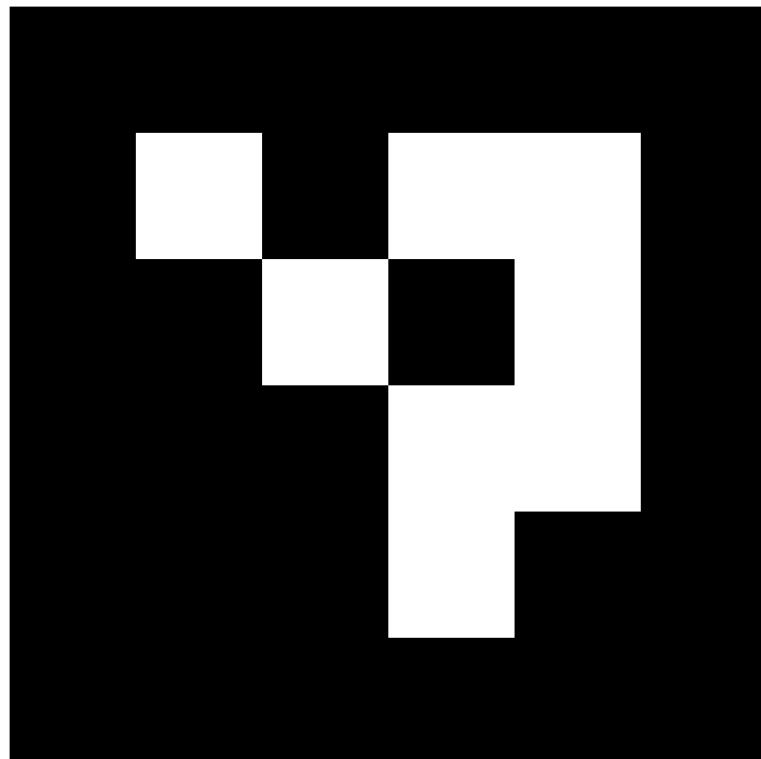
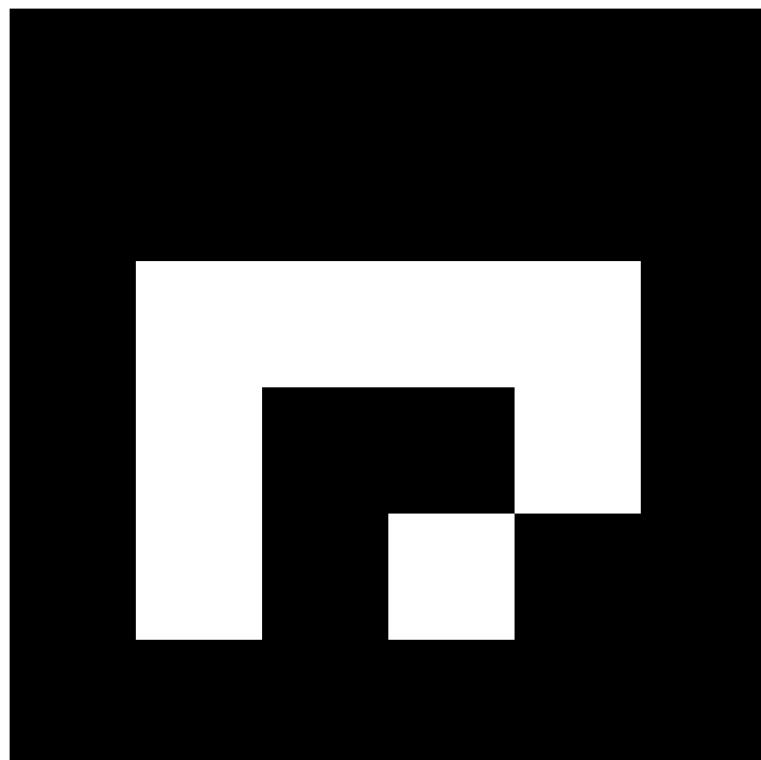


ArUco Calibration Markers - DICT_4X4_50

Marker size: 100mm | Page 1/2



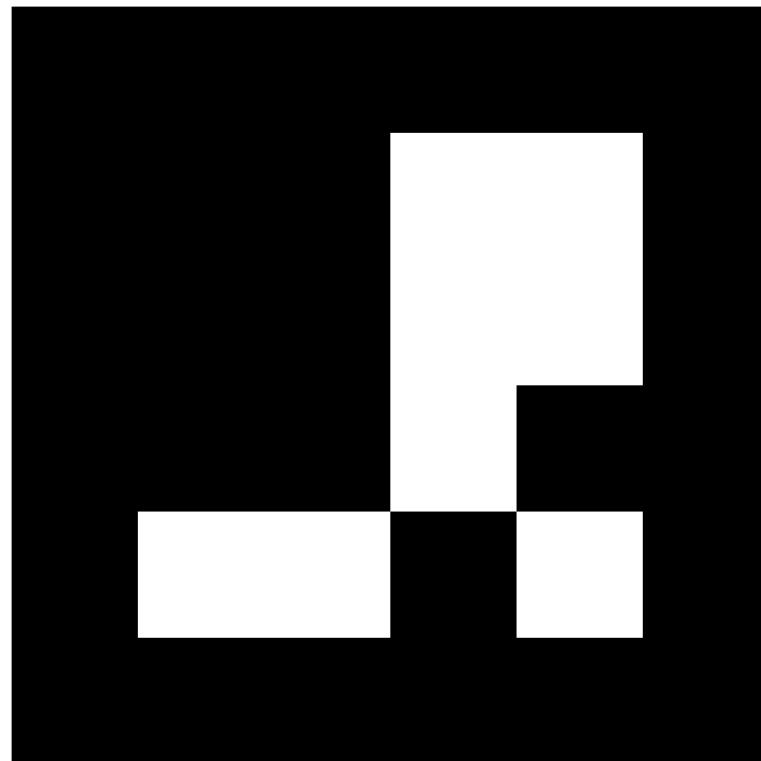
ID: 0



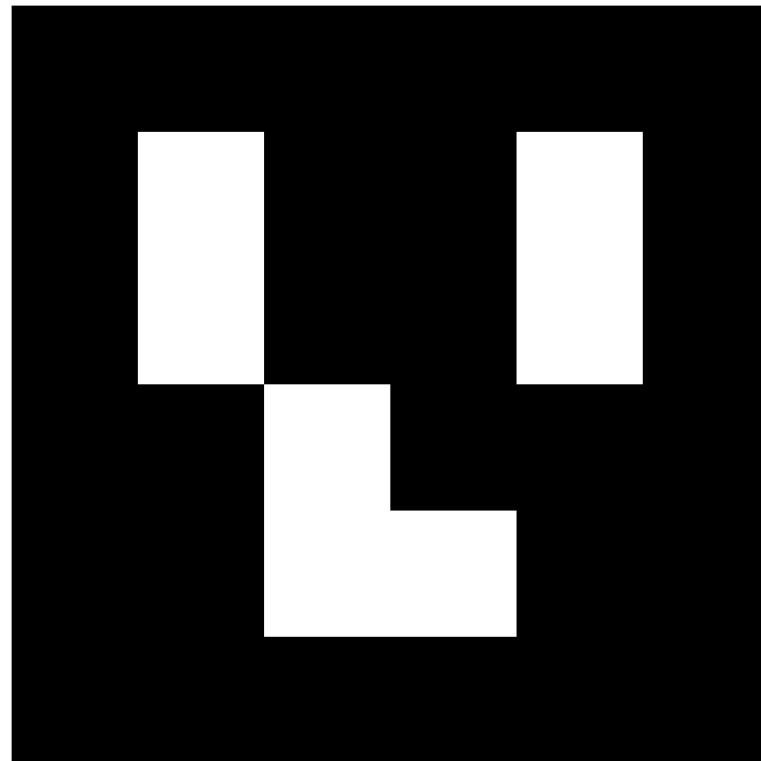
ID: 1

ArUco Calibration Markers - DICT_4X4_50

Marker size: 100mm | Page 2/2



ID: 2



ID: 3

Extrinsic Calibration Information

Dictionary: DICT_4X4_50

Marker physical size: 100 mm

Marker IDs: 0, 1, 2, 3

Usage Instructions:

1. Print this PDF at 100% scale (no scaling/fit to page)
2. Verify marker size with a ruler after printing
3. Mount the markers on a rigid, flat surface
4. Ensure good lighting without reflections

For ARKit Image Tracking:

- Individual marker images saved to: /Users/yhpark/Library/Mobile Documents/com~apple~CloudDocs/workspace
- Add these images to ARKit as reference images
- Set physical width to 120.0 mm

For Extrinsic Calibration:

- Both ARKit and the external camera will detect the same markers
- ARKit provides: $T_{\text{world}}^{\text{marker}}$ (marker pose in ARKit world frame)
- Camera provides: $T_{\text{camera}}^{\text{marker}}$ (marker pose in camera frame)
- Using head pose from ARKit: $T_{\text{world}}^{\text{head}}$
- Solve for: $T_{\text{head}}^{\text{camera}}$ (extrinsic calibration)