Input Image



Ground truths

- Painting
- Painting
- 3. Floor
- 4. Painting
- 5. Painting
- 6. Painting
- 7. Painting 8. Ceiling
- 9. Wall
- 10. Window

t=0 (base predictions)



Initial predictions

- Painting
- Painting
- 3. Floor
- Painting
- Painting
- Sculpture
- Sculpture
- Ceiling
- Floor 9.
- 10. Door

t=1

Revised predictions **Painting**

- 2. Painting
- 3. Floor
- Painting
- 5. Sculpture
- 6. Sculpture
- 7. **Painting**
- 8. Ceiling
- 9. Painting
- 10. Door

t=2



Revised predictions

- Painting
- Sculpture
- 3. Floor
- **Painting**
- Sculpture
- **Painting**
- **Painting**
- 8. Ceiling 9. Sculpture
- 10. Window

VLM Binary Verification (Ours)

Intrinsic

Self-Correction



Revised predictions

- Painting
- 2. Painting
- 3. Floor
- Painting
- 5. Painting 6. Sculpture
- 7. Painting
- 8. Ceiling

9.

Floor 10. Window



Revised predictions

- Painting
- 2. **Painting**
- 3. Floor
- **Painting**
- **Painting**
- **Painting**
- 7. **Painting**
- 8. Ceiling 9. Floor
- 10. Window

Noise-Free



Revised predictions

- **Painting** 1.
- 2. Painting
- 3. Floor
- Painting
- 5. **Painting**
- 6. Painting
- 7. Painting 8. Ceiling
- Floor 9.
- 10. Window



Revised predictions

- Painting
- 2. **Painting**
- 3. Floor
- **Painting**
- 5. **Painting**
- **Painting**
- **Painting** 8. Ceiling
- 9. Floor
- 10. Window