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Verification

## 3D Model Matching Pipeline

Robert B. Fisher School of Informatics University of Edinburgh

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Range Data Recognition Introduction

Range data: 3D Recognition Pipeline

Range Data

Geometric Model Verification Failure (redo matching)

Model Matching

Pose Estimation

**Recognition**: True/False **Position**: translation/rotation

3D Plane-based Recognition
Is there a wedge in the scene?
Have geometric model:
3D a priori knowledge
Data from laser scanner
? region segments
Geometric transforma-

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Range Data Recognition Introduction

tions

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## Recognition: Model Matching

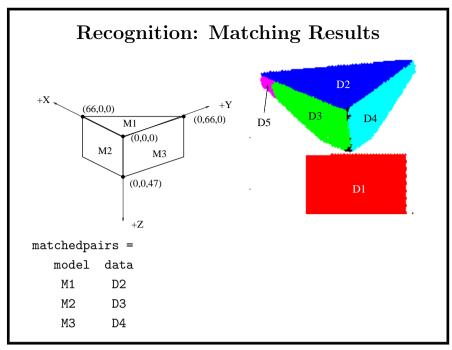
Use ? Tree

Unary constraint: eg. surface area
Binary constraint: eg. angle between
vectors, like surface normals
Trinary constraint: sign of vector triple

product  $\vec{a} \cdot (\vec{b} \times \vec{c})$ 

eg. on surface normals

Result: paired model and data planes



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## What We Have Learned

- An application of the ? matching algorithm to 3D data
- A review of 3D coordinate systems

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