# **Speechrecognition**

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#### **Motivation**

#### Why even bother?

- faster and more general way to give robots commands
- a necessity for casual users
- user does not need additional hardware

#### Content

What

#### Content

- 1. Hardware
- 2. Localisation
- 3. Signal Enhancing
- 4. Voice Activation Detection
- 5. Speaker Recognition
- 6. Speech Recognition
- 7. Discussion/ Question Round

## Hardware

#### Microphones

#### **Microphone Arrays**

# Localisation

#### **Sound Source Localisation**

# Signal Enhancing

#### Beamforming

# **Voice Activation Detection**

#### What we use

#### other approaches

**Speaker Recognition** 

# Speech Recognition

### **Approaches**

Hidden Markov Models vs Deep Learing vs Online

#### **Grammar vs Grammarless**

#### **Sphinx**

#### Deepspeech

### Google/Bing/... Online Speechrec

Thanks for the Attention!

Discussion/ Question Round

#### **Sources**