## Deep learning guided robotics

Council of Supply Chain Professionals Luxembourg, November 21<sup>st</sup> 2017 Herbert ten Have, CEO





Founded in 2014 by Prof. Wisse as Delft Robotics Staff of 13

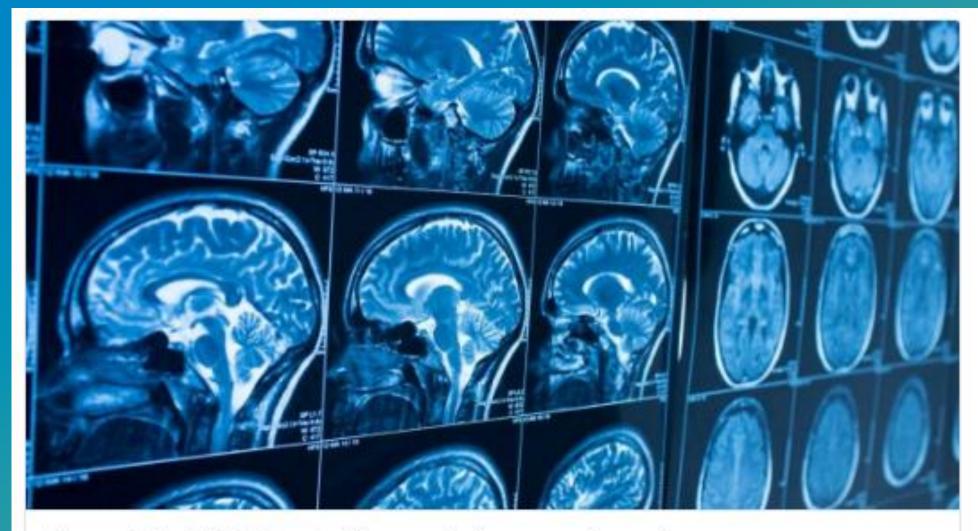
Specialized in vision guided robotics through AI

Double Winner Amazon Picking Challenge 2016



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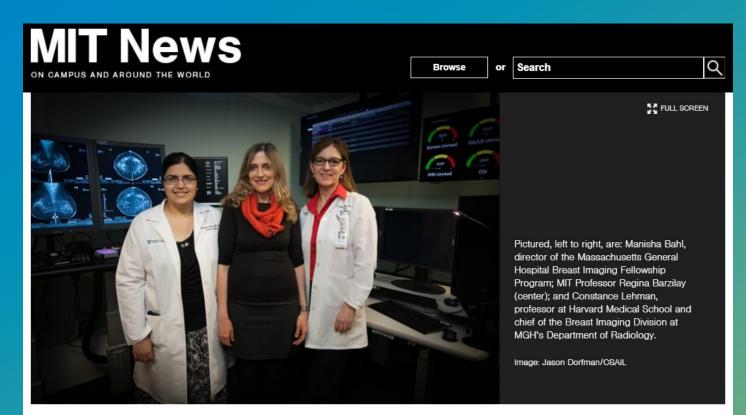
AI can detect Alzheimer's 10 years before symptoms show up



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#### Using artificial intelligence to improve early breast cancer detection

Model developed at MIT's Computer Science and Artificial Intelligence Laboratory could reduce false positives and unnecessary surgeries.

Adam Conner-Simons | CSAIL October 16, 2017

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Artificial intelligence can accurately guess whether people are gay or straight based on photos of their faces, according to new research that suggests machines can have significantly better "gaydar" than humans.

The study from Stanford University - which found that a computer algorithm could correctly distinguish between gay and straight men 81% of the time, and 74% for women - has raised questions about the biological origins of sexual orientation, the ethics of facial-detection technology, and the potential for this kind of software to violate people's privacy or be abused for anti-LGBT purposes. North Korea ridicules

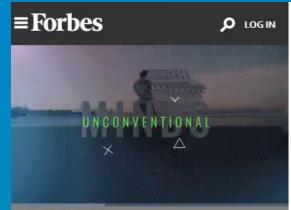
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#### Is Artificial Intelligence Dangerous?

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R.L. Adams, CONTRIBUTOR

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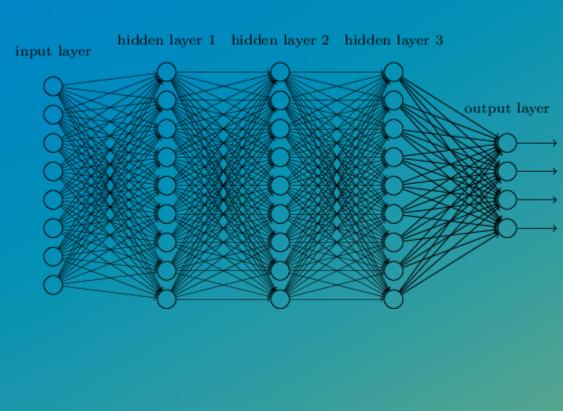


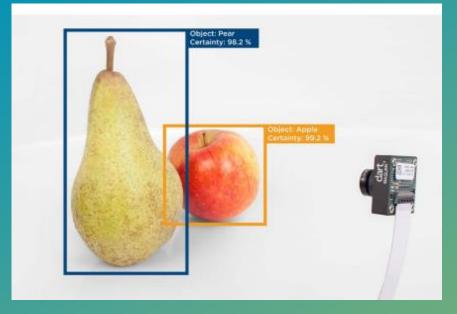
#### The big challenge: variation





### Artificial intelligence





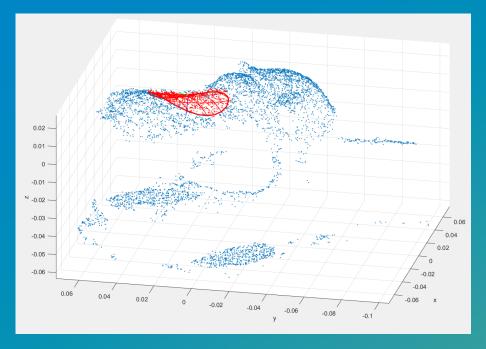




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## Picking









### Packages and order picking









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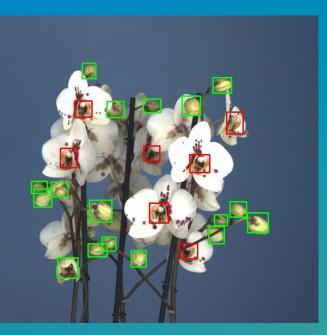
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#### Identification









## Quality control







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#### **Applications & markets**

What?

#### For whom?

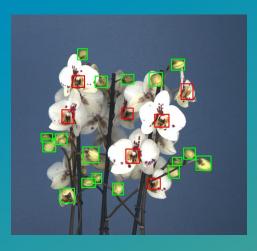
Order picking Bin picking Quality control Identification Warehousing Postal sector



### Recent projects











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#### Deep learning for vision guided robotic