The Good, The Bad and The Ugly of AI for IoT and Sensor Network

Professor
Department of Information Engineering
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Today’s AI Applications: Vision/NLP

Algorithms

Compute Resource

Data

Deep learning - CNN
What about IoT
AI Accelerator + Edge/Fog Computing

https://medium.com/syncedreview/tracking-the-transforming-ai-chip-market-bac117359459
What about IoT

- Algorithms
- Compute Resource
- Data
Data Labeling

**The New York Times**

**THE NEW NEW WORLD**

*How Cheap Labor Drives China’s A.I. Ambitions*

Workers at the headquarters of Baidu Technology Company in Jinjiang, in central China’s Fujian Province. They identify objects in images to help artificial intelligence make sense of the world.

Ye Cong/The New York Times

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**Bloomberg**

**Technology**

*Amazon Workers Are Listening to What You Tell Alexa*

A global team reviews audio clips in an effort to help the voice-activated assistant respond to commands.

By Matt Day, Giles Turner, and Natalia Drozdiak
April 10, 2019, 6:34 PM GMT-4

*Someone’s listening to what you tell Alexa*
Data Labeling?
Physical Uncertainty
Incorporating Domain Knowledge in ML
Smart Lampposts

- 140K lampposts X 10 fps X 7 X 24 X 3600
Multi-Sensor Fusion

Texas Instruments