The Future of Deep Learning

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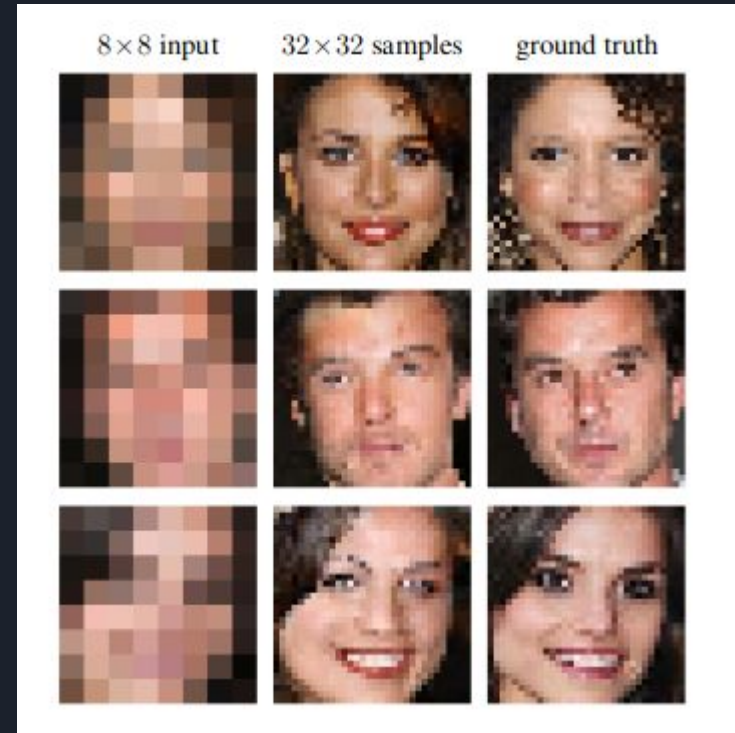
Studied Applications

- Reflected on problems related to
  - **Super Resolution**
  - **Self-Driving Cars**

Super Resolution (What)

- Input
  - 8x8 pixels
  - Real low resolution image
- Output
  - 32x32 pixels
  - Fake high resolution image
- Ground Truth
  - 32x32 pixels
  - Real high resolution image

- How much can the results be trusted?

8×8 input   32×32 samples   ground truth

Super Resolution (Why/Who/How Many)

- Important because
    - Could improve security camera footage
    - Could incriminate innocents
- Affects
    - Law makers
    - Everybody who could be wrongly convicted

Self-Driving Cars (What)

Waymo

- Trained with 2.7 billion miles of simulated road and 5 million miles of self-driving
- Testing underway on public roads

Questions being raised

- Ecological impact?
- Who is responsible for crashes?
- Regulations?

Self-Driving Cars (Why/Who/How Many)

- Importance
  - Could improve carbon emissions
  - Safety
  - Responsibility
- Affects
  - Everyone on the road
  - Legislators
  - Car manufacturers

Questions