

Apple- AI is Core to Iphone UX

Robust Portfolio of On-Device Deep Neural Networks



Computer Vision

- 1) Face Recognition in photos (IOS 10)
- 2) Facial expression recognition in photos (IOS 10)
- 3) Object recognition and scene understanding in photos (4400 categories!) (IOS 10)
- 4) Memories highlight reels for photos and videos (IOS 10)

Speech

- 1) Siri- RNN/LSTM for voice recognition (Since 2014)

Language Understanding

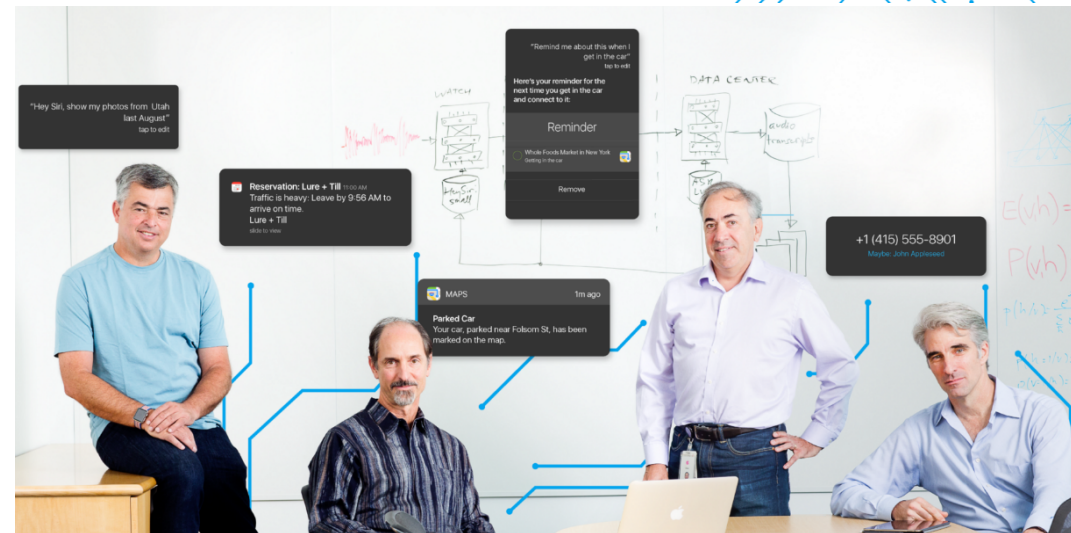
- 1) Siri NLP core
- 2) IOS- RNN/LSTM keyboard predictive type (IOS 10)
- 3) Location based reminders and predictions
- 4) Caller ID mining from email
- 5) App usage prediction/suggestions

System Performance Enhancement

- 1) Optimizing battery lifecycle
- 2) WLAN/WWAN switching/handoff
- 3) Ipad Pro palm rejection
- 4) Apple Watch activity/exercise tracking

Security

- 1) App Store fraud detection



iBrain: Upto 200 MB of many on-device deep neural networks running on an Iphone

Apple is also leading with differential privacy techniques to still get access to training data it needs while preserving its position on user privacy