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Added Value

- Situational and Cognitive Awareness for Robots
- Creating a Distributed sensor fusion using IoT
- Acquiring data from on-board, stationary sensors, as well as wearables
- Mitigating exteroceptive sensing to low-cost multiple/distributed devices
- Monitoring activity, habits, mood, temperature, location, sleeping, patterns of

Enablers

- Cloud Robotics: delegating processing, and accumulating/mining sensor data and meta-data
- Knowledge and experience transference: dealing with (locally) unknown or unseen data on a global (cloud) scale
- Distributed computing: partial processing on cloud-agents, and sensor acquisition from a broad range
- Deep Learning and fused sensory data: cascading or combining non-homogeneous

Obstacles

- Low latency: IoT/Robotics clouds operating on 10Hz (100ms) loops need high-bandwidth and high-throughput PaaS
- Non-homogeneous Data, API and SDK: variety of sensors (LIDAR, IR, US, RGB-D) produce different data at high rates and large volumes from different libraries. Wearables are also very peculiar
- Embedded Compute is not as fast as Network connectivity (e.g., Multi-Core vs LTE *G)
- Remote robots cannot always rely on TCP/IP and have adapt to local P2P/MANET solutions

Thank you

More info:

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