QT-Opt: Scalable Deep Reinforcement Learning for Vision-Based Robotic Manipulation

arXiv:1806.10293, Kalashnikov et al, 2018.

Sumamrized by Hyecheol (Jerry) Jang

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    Provide ability to make decision in long-term, using previous experiences in complex and robust scenarios

Motivation: Why Robotics + Reinforcement Learning

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- Want to make Robots that **identifies surroundings** and **behave accordingly**, but it is difficult
    - **Deep Learning**
      Provide ability to handling real-world scenarios
    - **Reinforcement Learning**
      Provide ability to make decision in long-term, using previous experiences in complex and robust scenarios
- Combining two techniques
    - Able to learn policy continuously from their experience
    - No need for manual engineering, use data they collects

- Varience in **visual and physical property of objects**
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  - Surface Characteristics (Slippery, Sticky, . . .)
  - Color Variation
  - Shape Variation
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- **Noise** of sensors