Toward Intelligent Robots Operating in Human Environments

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Intelligent robots will soon assist and accompany us in our homes, work and public places. Intelligent robots must interact and learn by humans and adapt the policy as the environment changes. In this talk, I will overview the existing efforts including our attempts at creating intelligent robots operating in everyday life environments. I will focus on application of Deep Belief Neural Networks for object recognition in assembly tasks, outdoor robot navigation and localization, 3D mapping and localization, and Brain Machine Interface systems. I will show real robot experimental results.