

# Choosing the right computing platform for robotics

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## Abstract

In this paper we present possible computing platforms for mobile robots, we classify them, and finally we propose how to choose the right, the most appropriate computing platform for different fields of applications. A robot can be considered as a mechanical machine controlled by a computer program running in a central processing unit (CPU). Focusing on educational and research robots, we show that there are many different possibilities for mobile robot computing platforms, processor architectures and software frameworks. As the robot application fields varies also – from the simple reactive agents, through mapping navigating tasks, to complex human environment interactions – the required sensors, data processing capabilities, real-time processing and communication requirements, but also the existing software framework, driver, API possibilities should be considered. Our goal is to match the robot and application requirements with the processing hardware and software potential.

*Keywords:* robotics, computing platform, mobile robot