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## **Teaching Humanoid Robots to Play Soccer**

### **On Human-Technology Relations in the Development of Artificial Intelligence**

The development of humanoid robots equipped with artificial intelligence (AI) ripe to overtake human mental capacities has been depicted as intangible, irrevocably progressing force with a set end state in both utopian and dystopian accounts, in fiction as well as in theoretical treatises. I argue that this depiction, by disguising the actual processes that take place in computer science labs, significantly restricts a thorough societal discourse on how we want the development of AI to proceed. In order to empower a wider and more aimed public debate on the topic, the present work will describe and analyze these processes, as well as the human-technology relations on which they are based, in a team of the RoboCupSoccer's Standard Platform League.

In this team, which programs humanoid robots to autonomously play soccer with the aim of beating human players in the future, I carry out ethnographic fieldwork and am also active as a programmer myself. Through these insights informed both by ethnographic research within this team, and an understanding of the robots from a technical perspective, my research will serve to further a more comprehensive understanding of how AI is developed within the context of humanoid robotics.



Figure 1. Nao v6. (Softbank Robotics, <https://www.softbankrobotics.com/emea/en/nao>, accessed March 10, 2021)