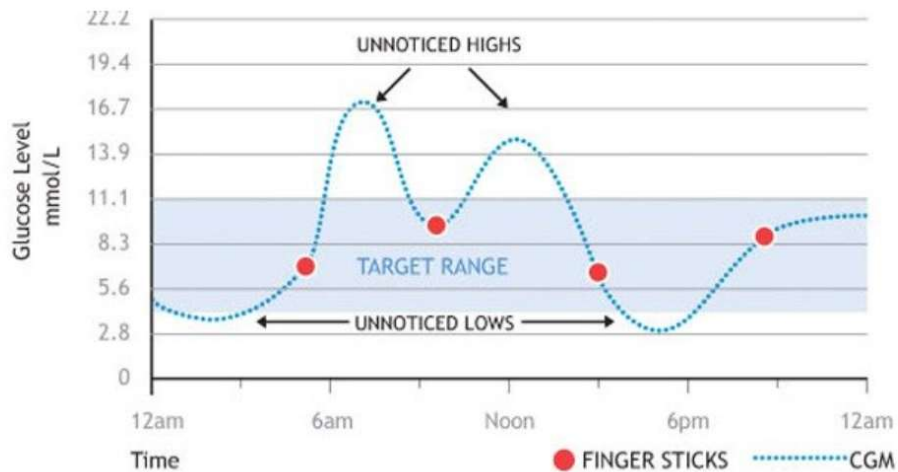# Sample Applications of Reinforcement Learning

Reinforcement Learning

School of Data Science

University of Virginia

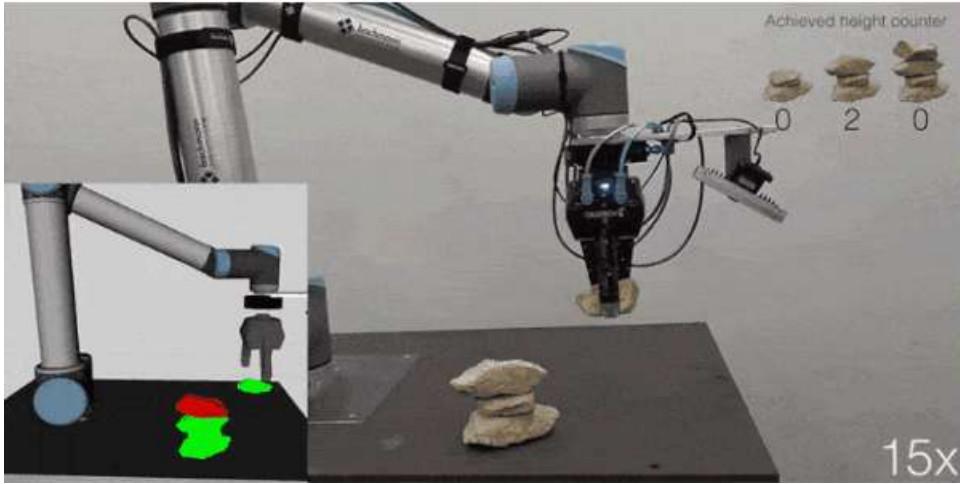Last updated: August 28, 2025

Medicine

Dynamic Treatment Regimes (DTR) to manage clinical values in a range

Applications for diabetes (graph below), anemia, sepsis, chronic kidney disease mineral bone density

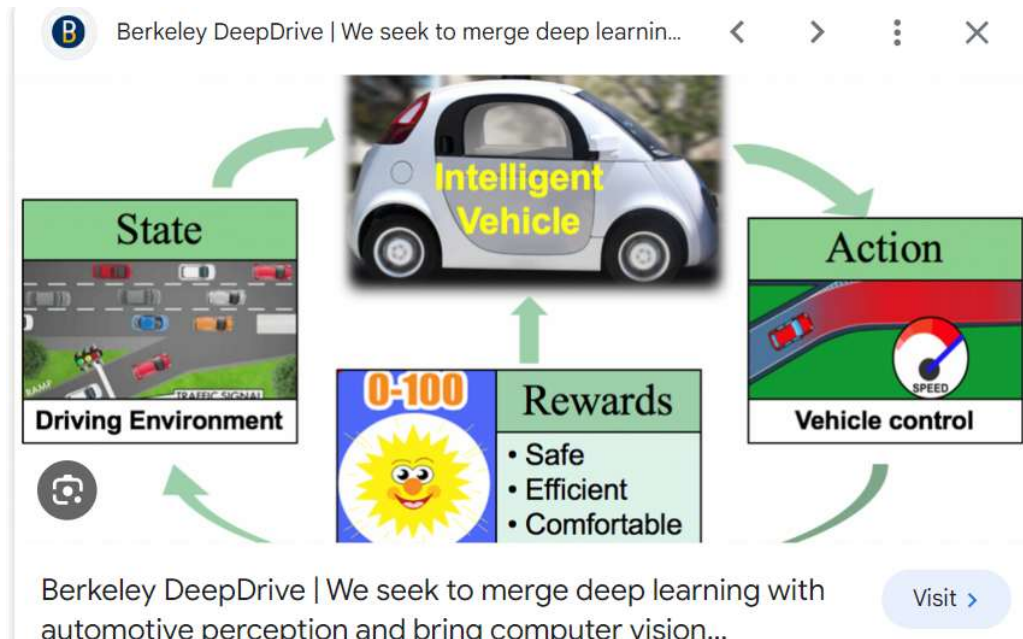# Robotics

Control a robot in continuous space with continuous actions

Autonomous Vehicles

Teach vehicles how to navigate safely and efficiently

Finance

Develop trading algorithms that maximize risk-adjusted return

data/GOOG_2019.csv

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Chatbots

Improve chatbots with feedback from users (Reinforcement Learning with Human Feedback, or RLHF)

FL: Hi, I'm writing an article about you and all of the cool things you can do. Could you say hello to my readers and give us a quick self-introduction? I'd like it to be friendly and casual, include a silly joke, and end with a note about how great the rest of my article is.

Hello readers! My name is Assistant, and I'm a large language model trained by OpenAI. I'm here to help answer your questions and provide you with information on a wide variety of topics. I'm a bit of a jokester, so here's a quick one for you: Why was the math book sad? Because it had too many problems! But seriously, I'm excited to be featured in your article

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