

My Courses: This Week and Next

EDIT



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FWP: the good, the bad, the ugly

what's next?

deployment

AWS

what is the “right” language to use?

power/speed

popularity/community

security

mobile vs. web

design (responsive)

asynchronous

iOS vs. Android

evolution of web-dev

HTML 5

graphics, virtual reality

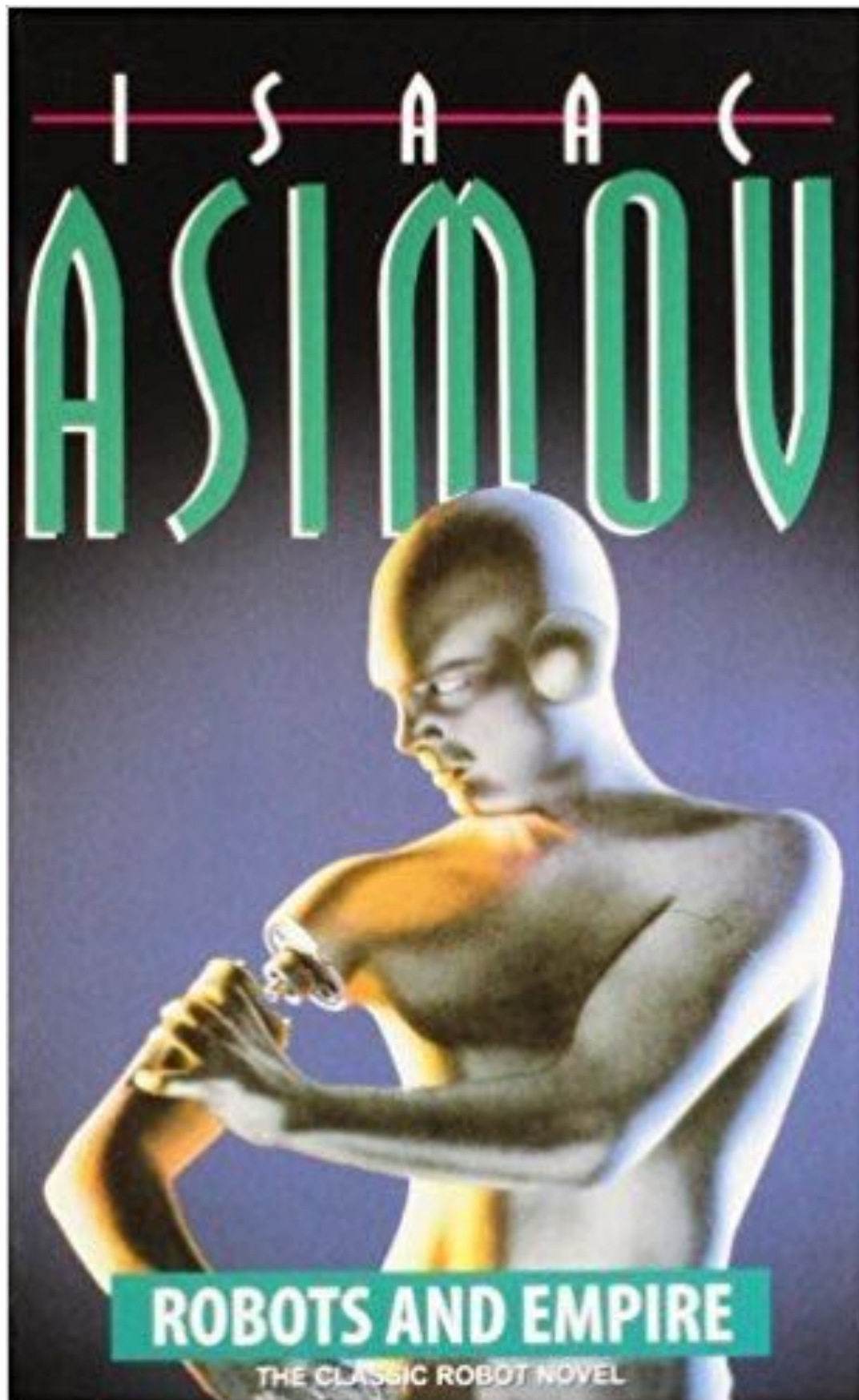
security

**how do I know if someone is a good
developer?**

google interviews (dumb)

github, app store (smart)

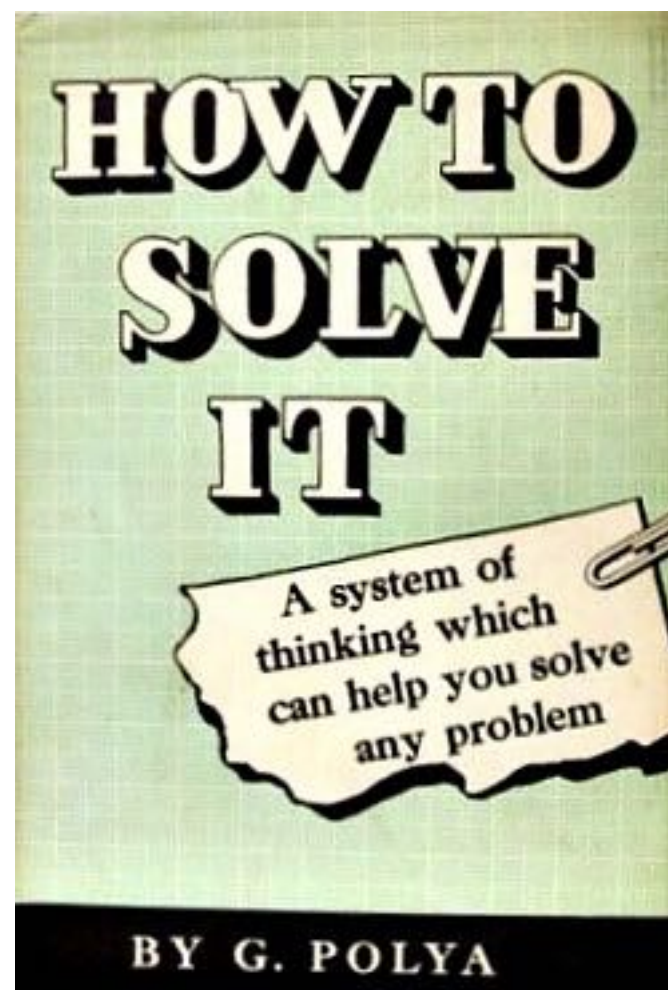
when will the robots take over?



Robots and World

Devin Balkcom
Dartmouth Computer Science

Solving problems with robots



1. Understand the problem
2. Simplify and solve
3. Generalize

Engineering → Science → Engineering

Self-driving cars: How do we control a car reliably?



Systems: sensors and networks

How can we design or use world-spanning infrastructure?
(GPS systems, 5G, the highway system)



Robots and world: robots as system components



Maitin-Shepard and Abeel,
(Berkeley, 2010)

Robots are **attachable motors, sensors, computation.**

Systems: human

Hamlet: What a piece of work is a man, how noble in reason, how infinite in faculties, in form and moving how express...

Humans as input



Systems: human

Hamlet: What a piece of work is a man, how noble in reason, how infinite in faculties, in form and moving how express...

Humans as input



Output, too! *Close the loop.*

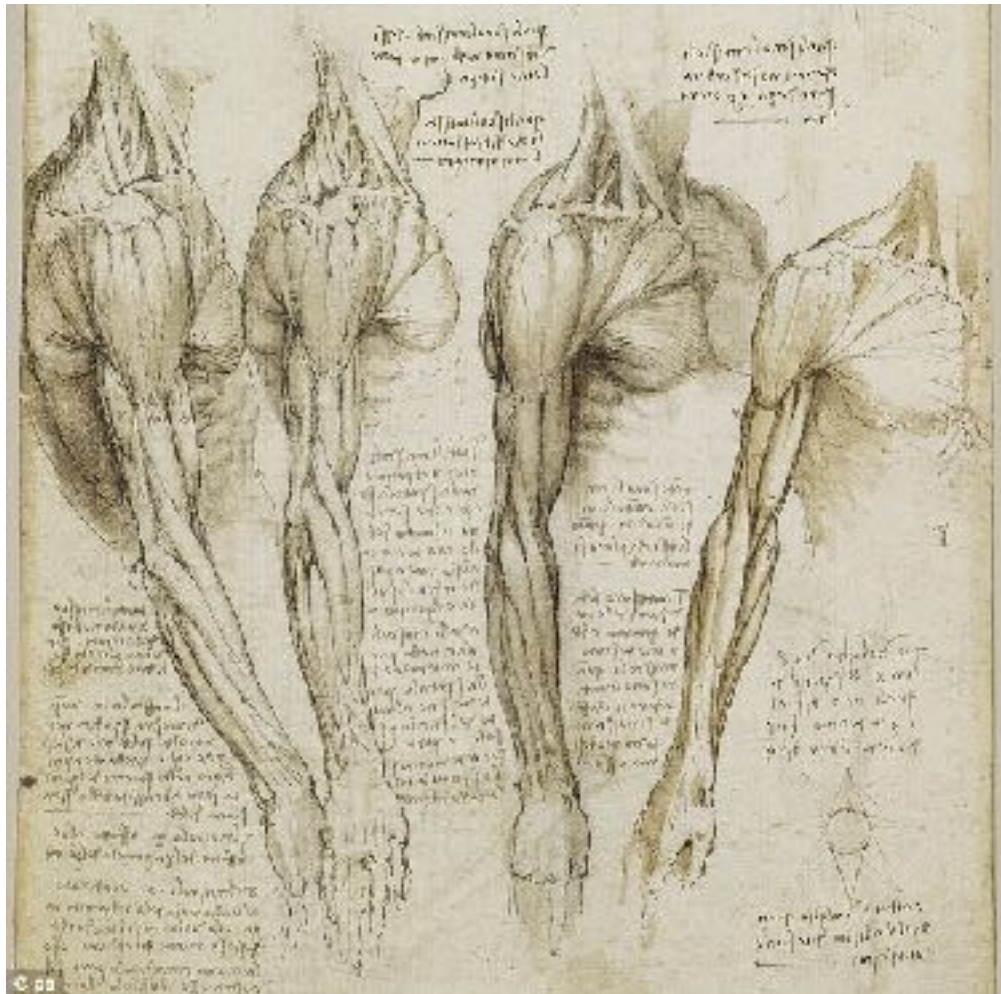


Nycz et al, 2016

Robots and science

What can we learn about the world from robots?

- Robots allow controlled experimentation, and perspective

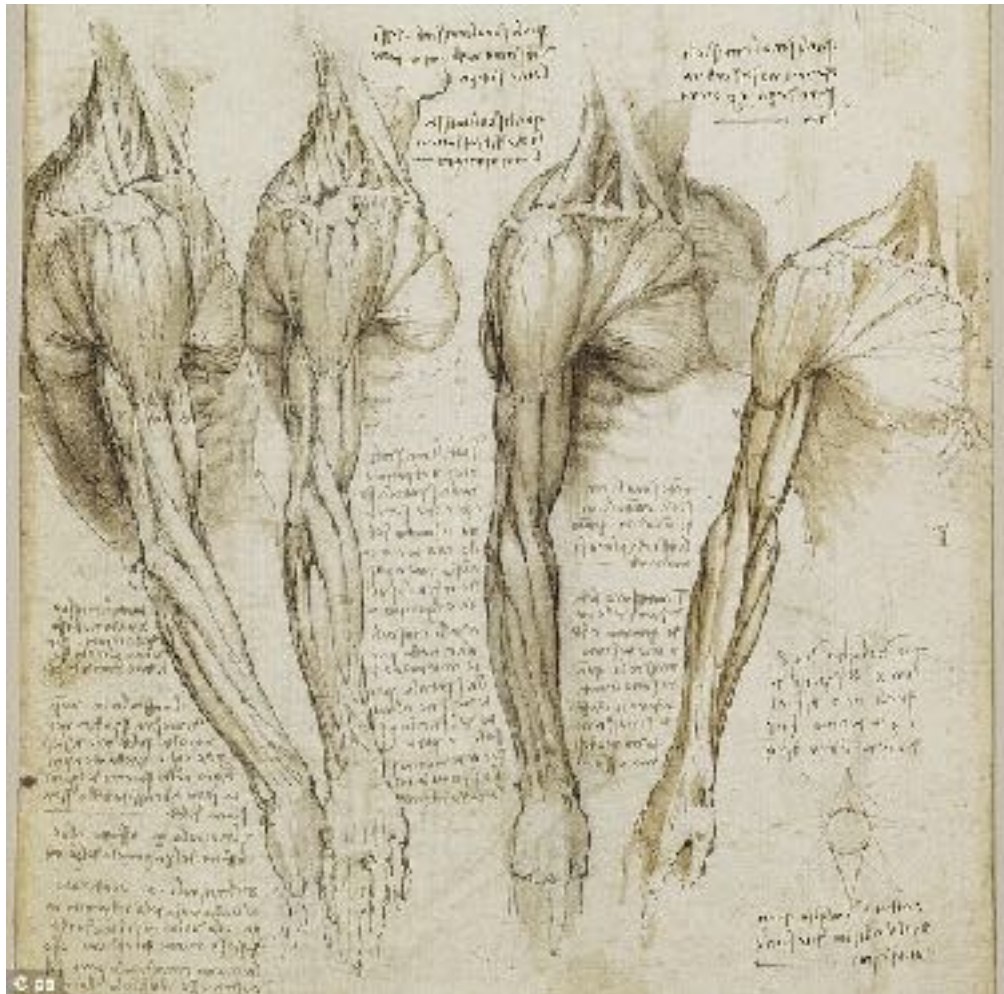


Why 7 DOF?

Robots and science

What can we learn about the world from robots?

- Robots allow controlled experimentation, and perspective



Why 7 DOF?



Collins, Ruina 2000

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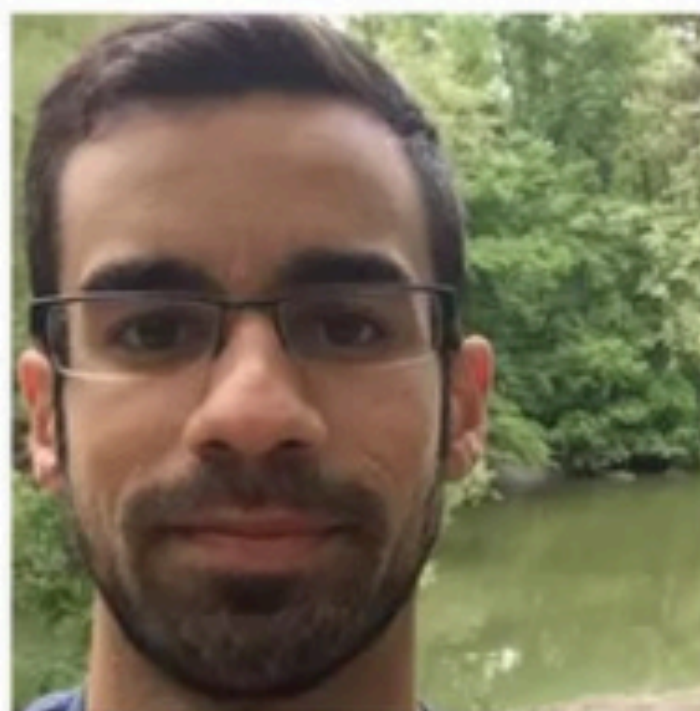
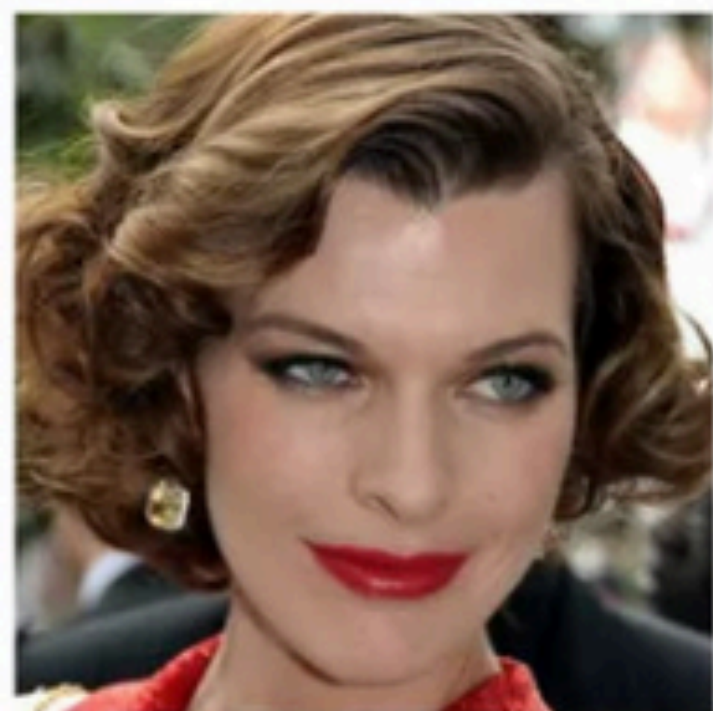
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will AI take over?



what are the biggest cybersecurity threats?

cyberterrorism?