

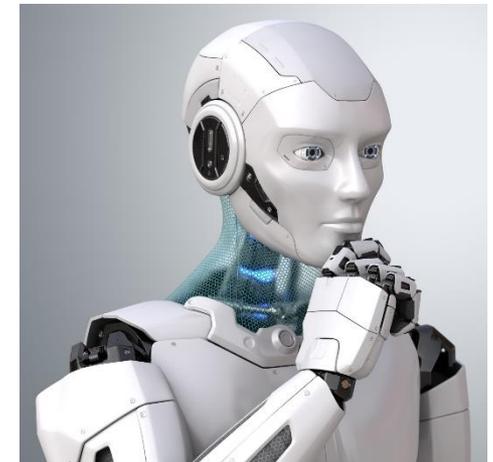
# Autonomous AI without Androids

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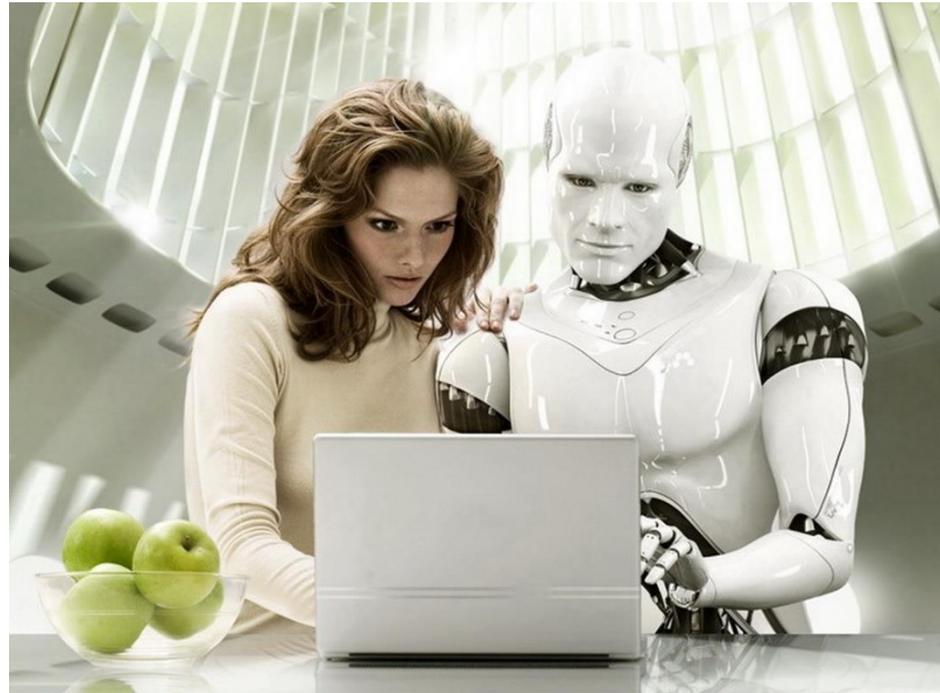
# Robots vs. androids

- Robot =
  - a machine capable of carrying out a complex series of actions automatically
    - *Especially when programmed by computer.*
    - *From a Czech word for serf labor.*
  
- Android =
  - a robot resembling a human
    - *From the Greek for “resembling a man.”*



# Robots as coworkers

- Coming: a future of working with robots.
  - Rather than humans.
  - We may treat robots as companions.
    - *Particularly if they are **androids** that can read and anticipate human emotions & reactions.*



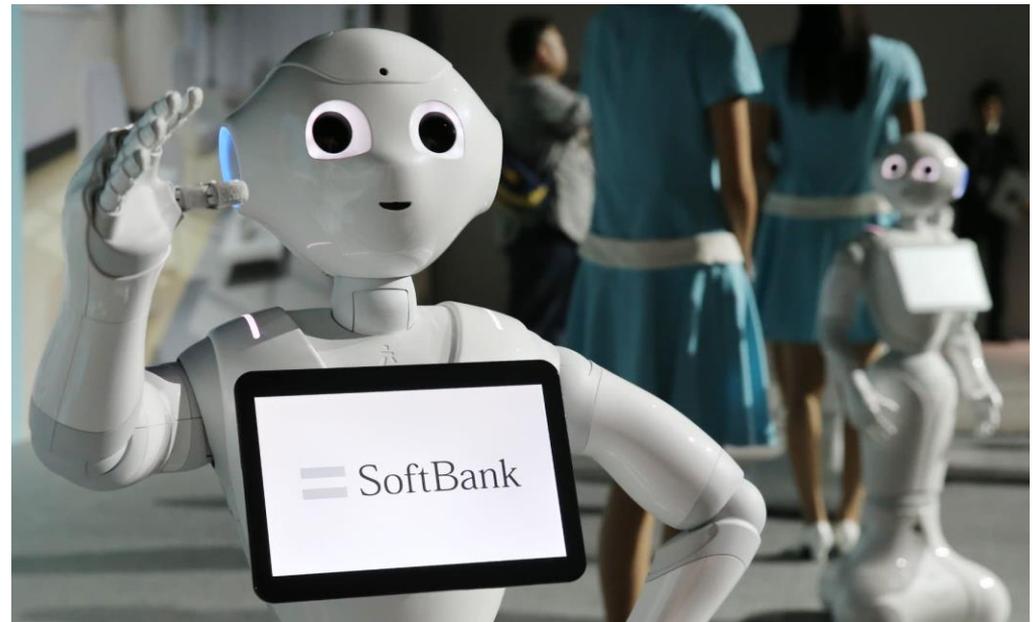
# Robots as coworkers

- Coming: a future of working with robots.
  - Qihan Technology's Sanbots.
    - *Voice and facial recognition.*
    - *Video chat*
    - *Speech recognition in 26 languages*
    - *AI capabilities powered by IBM Watson.*



# Robots as coworkers

- Coming: a future of working with robots.
  - This is Pepper.
    - *Can wait tables, work with employees.*
    - *In thousands of Japanese homes, where it serves as surrogate child or grandchild.*



# Robots as coworkers

- Coming: a future of working with robots.
  - These are IBM Soul Machines
    - *“Digital humans” with “ability to sense, learn and adapt.”*
    - *Used for customer care, onboarding, wellness coaching, employee training.*



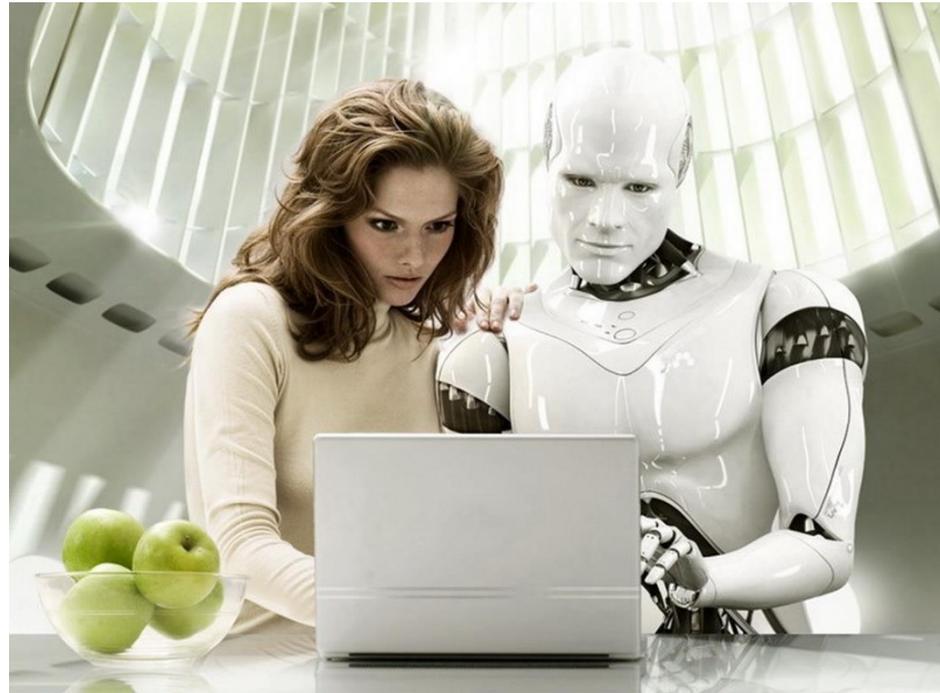
# Robots as coworkers

- Rationale for working with humanlike “cobots.”
  - We can relate more effectively to robots like us.
    - *They can read our emotions and adjust accordingly.*
    - *This results in greater productivity.*



# Robots as companions?

- Coming: a future of working with robots.
  - What does that do to us?
    - *Even very intelligent robots are **not human**.*
    - *Human companions have a sense of **irony & humor**, can feel **compassion**, question our **motives**, provide **pushback** against our **narcissism**.*



# Robots as companions?

- Human already have a strong tendency to anthropomorphize.
  - With respect to both animals and machines.
    - *Pet hospitals.*
    - *Pet cemeteries.*
    - *We like pets partly because they don't question our motives and provide pushback as children do.*



# Robots as companions?

- We anthropomorphize machines.
  - Boomer the battlefield robot.
    - *Deployed in Iraq to seek out explosives.*
    - *When destroyed on a mission, it received a funeral with 21-gun salute.*
    - *Was awarded Purple Heart and Bronze Star.*



# Robots as companions?

- We anthropomorphize machines.
  - Mail robots at Canadian Broadcasting System received retirement party.
    - *With gifts, a farewell video and goodbye card full of affectionate comments.*



# Robots as companions?

- We anthropomorphize machines.
  - Nursing home residents form emotional attachments with androids.
    - *This is Zora, the robot caregiver.*
    - *Zora talks to residents using words supplied in advance by a human operator.*
    - *Residents caress and kiss the robot.*



# Robots as companions?

- We anthropomorphize machines.
  - Chatbots impersonate humans.
    - *Gives impression of a company that cares about you.*
    - *California law now requires that chatbots identify themselves as nonhuman.*
    - *Consumers revenge: they will use their own chatbots to interact with online chatbots.*



# Robots as coworkers

- Why must robots have humanlike qualities?
  - They can perform specific tasks just as well, if not better, without pretense of being human.
  - Intelligence doesn't imply humanity.
  - Humans can adapt to working with nonhuman, intelligent beings.
    - *We have done so for thousands of years.*



# Autonomy vs. humanity

- Autonomy does not presuppose humanity.
  - An autonomous agent is one that can give **reasons** for actions (“reasons responsiveness”).
    - *This is how “dual standpoint” theory of deontological ethics distinguishes agency from mere behavior.*
    - *...even though both are physically determined.*
  - An intelligent AI-based manager can make autonomous decisions without having other human traits.



# The appeal of androids

- Why do we want androids?
  - We have seen too many science fiction movies?
  - They create marketing buzz?



# The appeal of androids

- Disenchantment of nature
  - As described by Max Weber
  - The modern worldview sees nature as a mechanism rather than inhabited by spirit.



# The appeal of androids

- So we are lonely
  - ...in an unfeeling universe.
  - We seek extraterrestrial life, imagine that other animals can use language...
  - ...and bond with pets and machines.



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# Robots vs. androids

- Remedies?
  - Design intelligent **robots**, **not androids**, for the task at hand.
  - Involve human employees in **training** of robots.
    - *So that we relate to robots as **work animals**, not as human companions.*
    - *Training reveals how **unhuman** animals and machines are.*



# Robots vs. androids

- Remedies?
  - Seek companionship with humans.
    - *There are 7.8 billion of us.*

