ROBOTS, AI, AND THE FUTURE OF WORK CITATIONS
June 13–14, 2019 • Pittsburgh, Pennsylvania

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Citations (books, films, and TV series, listed by speaker)

Sanjiv Singh

Hanna, William, and Joseph Barbera	*The Jetsons*	1962–1963

David Mindell

Mindell, David	*Our Robots, Ourselves: Robotics and the Myths of Autonomy*	2015
Mindell, David	*Digital Apollo: Human and Machine in Spaceflight*	2008

Doug Lenat

Ashby, Hal (director)	*Being There*	1979
Shakespeare, William (playwright)	*Romeo and Juliet*	1590s
Minsky, Marvin, and Seymour Papert	*Perceptrons: An Introduction to Computational Geometry*	1969

Richard Freeman

Simon, Herbert	*The Sciences of the Artificial*	1969
Kaplan, Jerry	*Humans Need Not Apply: A Guide to Wealth and Work in the Age of Artificial Intelligence*	2015

David Hu

Hu, David	*How to Walk on Water and Climb up Walls: Animal Movement and the Robots of the Future*	2018
Redmond, Ian	*Elephant*	1997

Marc Miskin

Fleischer, Richard (director)	*Fantastic Voyage*	1966

Online Resources (by speaker, in order of appearance)

Sanjiv Singh
- https://www.nearearth.aero — Learn more about Singh's firm, Near Earth Autonomy, and see videos of his technology in action.
- https://frc.ri.cmu.edu/~ssingh/Sanjiv_Singh/publications.html — Probe the menu items on the left to delve into Singh's academic publications.
- https://forums.spacebattles.com/threads/flying-autos-in-20-years.336163 — Article (and associated forum discussion) by E.V. Rickenbacker, first published in 1924 by *Popular Science Monthly*, entitled "Flying autos in 20 years: An expert's visionary picture of motor travel in the future."

Martial Hebert
- https://www.ri.cmu.edu/ri-faculty/martial-hebert — Hebert's Carnegie Mellon website, including a list of his academic publications.
- https://www.ri.cmu.edu — Website of CMU's Robotics Institute.
- https://www.nrec.ri.cmu.edu/nrec — Website of the Robotic Institute's National Robotics Engineering Center (NREC).

- https://www.youtube.com/user/cmurobotics — Come here to find videos published by CMU's Robotics Institute.

David Mindell
- https://www.humatics.com — Learn more about Mindell's firm, Humatics, and its non-GPS-based microlocation technology for situated autonomy.

Jon Snoddy
- https://la.disneyresearch.com/publication — List of publications by Walt Disney Research.
- https://www.youtube.com/watch?v=m8pz_YlKbW8 — Video of 2003-era Lucky the Dinosaur, first published by Disney Parks on Aug 28, 2013.
- https://www.youtube.com/watch?v=2FKG1CeqCYY — Video of the Muppet Mobile Lab, first published on October 3, 2016, by wdwmagic.
- https://www.youtube.com/watch?v=jZspn4r6ZMU — Video of Destini the Fortune-Telling Robot, first published on August 21, 2011, by AnthonyRevolutionary.
- https://la.disneyresearch.com/publication/stickman — Abstract and video of Pope, M., et al. 2018. Stickman: Towards a human scale acrobatic robot. *IEEE International Conference on Robotics and Automation*.
- https://www.youtube.com/watch?v=ENa98h7M7qY — Video, first published on June 28, 2018, by TechCrunch, depicting the evolution of Stuntbotics, entitled "Disney Imagineering has created autonomous robot stunt doubles."

John Suh
- https://www.youtube.com/watch?v=A33Yu-9rgxo — Video of the Hyundai Elevate concept vehicle, detailing specs, degrees of freedom, walking modes, and use cases, first published on January 7, 2019, by HyundaiUSA.
- https://www.youtube.com/watch?v=tTBUWB-NzNQ — Video of prototype Elevate chassis and wheels performing a wide range of rolling and walking actions, including climbing onto a table, first published on January 8, 2019, by Sundberg-Ferar.

Doug Lenat
- https://www.cyc.com — Learn about Cyc, Lenat's knowledge representation and reasoning platform.
- https://www.cyc.com/mathcraft — Learn about the math education game powered by Cyc.

Leigh Caldwell
- https://www.irrationalagency.com/publications — List of publications by Caldwell and his colleagues at Irrational Agency.
- https://www.pbs.org/wgbh/nova/article/google-alphazero-artificial-intelligence — Article by Kathrine Wu, first appearing on PBS's *Nova* on December 6, 2018, entitled "Google says it built a 'superhuman' game-playing AI. Is it truly intelligent?"
- https://www.newyorker.com/science/elements/how-the-artificial-intelligence-program-alphazero-mastered-its-games — Article by James Somers, first appearing in *The New Yorker* on December 28, 2018, entitled "How the artificial-intelligence program AlphaZero mastered its games."
- https://www.smithsonianmag.com/innovation/google-ai-deepminds-alphazero-games-chess-and-go-180970981 — Article by Katherine Wu, first appearing in the *Smithsonian Magazine* on December 10, 2018, entitled "Google's new AI is a master of games, but how does it compare to the human mind?"
- http://web.mit.edu/6.034/wwwbob/kasparov-article.pdf — Excerpt from Diego Rasskin-Gutman's *Chess Metaphors: Artificial Intelligence and the Human Mind*, about Garry Kasparov's rematch against IBM's Deep blue, dated February 11, 2010, entitled "The chess master and the computer."

Gabriel Goldman
- https://www.washingtonpost.com/graphics/2018/national/mississippi-river-infrastructure/?utm_term=.b6b408beaa97 — Article by Todd Frankel, first appearing in the *Washington Post* on March 14, 2018, entitled "Taming the mighty Mississippi."

Richard Freeman
- https://scholar.harvard.edu/freeman/publications — List of Freeman's academic publications.

- https://arxiv.org/pdf/1705.08807.pdf — Full text of Grace, K., et al. 2018. Will AI exceed human performance? Evidence from AI experts. *ArXiv* 1705.08807v3.
- https://www.nber.org/papers/w25438 — Abstract and access options for Borjas, G., and R.B. Freeman. 2019. From immigrants to robots: The changing locus of substitutes for workers. *NBER* working paper no. 25438.
- https://www.theguardian.com/science/2017/oct/18/its-able-to-create-knowledge-itself-google-unveils-ai-learns-all-on-its-own — Article by Ian Sample, first appearing in the *Guardian* on October 18, 2017, entitled "'It's able to create knowledge itself': Google unveils AI that learns on its own."
- https://www.census.gov/data/tables/2013/econ/icts/2013-icts.html — Access to 2013 U.S. Census data: Information and communication technology survey tables.
- https://www.emeraldinsight.com/doi/full/10.1108/JPEO-04-2018-0015 — Full text of Freeman, R.B. 2018. Ownership when AI robots do more of the work and earn more of the income. *Journal of Participation and Employee Ownership* **1**:74–95.

David Hu
- http://hu.gatech.edu/publications — List of Hu's academic publications.
- https://www.youtube.com/watch?v=t5MQVBaqVkA — Video of a baby elephant relating to a field researcher, first published by amystan on April 2, 2009, entitled "Baby elephant searches for girl's nose."
- https://www.sciencedirect.com/science/article/pii/S0034568701002031?via%3Dihub#! — Abstract and access options for West, J.B. 2001. Snorkel breathing in the elephant explains the unique anatomy of its pleura. *Respiration Physiology* **126**(1):1–8.
- https://www.researchgate.net/publication/283545065_Asian_elephants_acquire_inaccessible_food_by_blowing — Abstract and access options for Mizuno, K., et al. 2015. Asian elephants acquire inaccessible food by blowing. *Animal Cognition* **19**(1):215–222.
- https://www.youtube.com/watch?v=ypJBYy09Ca8 — Video first published by hoprock123 on April 27, 2011, entitled "A floating fire ant raft pushed down on the surface of water."
- https://jeb.biologists.org/content/jexbio/217/12/2089.full.pdf — Full text of Hu's paper: Foster, P.C., et al. 2014. Fire ants actively control spacing and orientation within self-assemblages. *Journal of Experimental Biology* **217**:2089–2100.

Tae Wan Kim
- https://www.cmu.edu/tepper/faculty-and-research/faculty-by-area/profiles/kim-tae-wan.html — List of Kim's academic publications.
- https://public.tepper.cmu.edu/jnh/autonomyAImagazine.pdf — Full preprint of Hooker, J., and T.W. Kim. 2019 (forthcoming). Truly autonomous machines are ethical. *Artificial Intelligence*.
- https://static1.squarespace.com/static/592ee286d482e908d35b8494/t/5c5c4c3b24a69477fa2c6e96/1549552699544/Technological+Unemployment+%28website%29.pdf — Full preprint of Kim, T.W., and A.A. Scheller-Wolf. 2019 (forthcoming). Technological unemployment, meaning in life, purpose of business, and the future of stakeholders. *Journal of Business Ethics*.

Robert Charette
- https://resources.sei.cmu.edu/library/author.cfm?authorID=3101 — A small selection of Charette's publications.

Tim Enwell
- https://www.mistyrobotics.com — Learn more about Misty Robotics.

Marc Miskin
- https://www.seas.upenn.edu/~mmiskin — Access a list of Miskin's academic publications and explore each of his projects (nanoscience for robots, cell-sized machines, nanorobotics, and robotic matter) to view his videos.
- https://news.umich.edu/u-m-researchers-create-worlds-smallest-computer — News release published on June 21, 2018, by University of Michigan News, entitled "U-M researchers create the world's smallest 'computer.'"
- https://www.ncbi.nlm.nih.gov/pubmed/20567752 — Abstract and access options for Zhang, L., et al. 2010. Artificial bacterial flagella for micromanipulation. *Lab Chip* **10**(17):2203–2215.

- https://pubs.acs.org/doi/10.1021/acsnano.7b06398 — Full text of Xu, H., et al. 2017. Sperm-hybrid micromotor for targeted drug delivery. *ACS Nano* **12**(1):327–337.
- https://www.pnas.org/content/106/3/703 — Full text of Leong, T.G., et al. 2009. Tetherless thermobiochemically actuated microgrippers. *Proceedings of the National Society of Sciences* **106**(3):703–708.
- https://www.nature.com/articles/micronano201666 — Full text of Seymour, J.P., et al. 2017. State-of-the-art MEMS and microsystem tools for brain research. *Microsystems & Nanoengineering* **3**:16066.