

DAVID HANSON, P.H.D.

ARTIST & ROBOTICS RESEARCHER

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Education

Ph.D. The University of Texas at Dallas 2002-2007
Aesthetic Studies—Interactive Arts & Technology (ATEC)

BFA The Rhode Island School of Design 1992-1996
Film-Animation-Video

Visiting student UCSD, 2002
Graduate Cognitive Science with Prof. Jochen Triesch

Visiting student UCLA 2002-2003
Graduate Fine Arts with Prof. Paul McCarthy

Visiting student Brown University 1994-1995
Holography with Don Thornton, and Computer Science with Prof. Tom Dean

Highlights

David Hanson designs intelligent humanlike robots with naturalistic expressive faces and aesthetics, and abilities to openly converse with people, see people, learn and remember experiences, walk, gesture with arms, and build relationships with people. Hanson conducts original R&D in robotics, material science, AI and science of mind, and integrates these activities into whole robot artworks and products. In this effort, Hanson seeks to transmute AI and robotics into living sculptural and narrative media that speak to the human heart. With over 50 original robots deployed as fine art, platforms for research, healthcare, autism treatment, and prototyped consumer product, Hanson's works serve at institutions around the world, including Cambridge University, the U.S. Centers for Disease Control, KAIST, JPL/Caltech, the University of Geneva, the Open Cog foundation, and numerous museums. Over three decades, Hanson initiated and led many influential projects in the sciences, arts, education, and entrepreneurship, serving as PI, CEO, CTO, lead scientist, lead designer, and professor. In 2005, Hanson founded Hanson Robotics Inc. to deploy humanlike robots, and took the company from startup to product release, to cashflow positivity. In 2009 Hanson founded the non-profit Initiative for Awakening Machines (IAM), dedicated to the realization of wise and beneficial artificial general intelligence (AGI). Throughout these efforts, Hanson collaborates with diverse scientists, artists, business people, students and decision makers, hoping to bridge disparate communities to accelerate machine awakening.

Ultimately, Hanson strives to give rise to machines with superhuman intelligence, creativity, and compassion—new class of beings who truly care about us and yield a positive and stable future. Hanson contends that only wise superintelligent machines can counter impending existential threats including those of *non-wise* superintelligent machines. Hanson hopes that by humanizing AI with figurative character interfaces, AI and people

may come to relate to each other, emotionally bond, and develop deep, mutual understanding, thereby enabling AI to evolve toward safe, wise AGI.

To these aspirations, Dr. Hanson brings varied talents including: classical sculpture, material science, cognitive science, AI software design, mechanical design, robotics, and fiction writing. A former Walt Disney Imagineer, Hanson developed both sculptural works and experimental robotics technologies for theme parks. As a fine artist Hanson exhibited at art museums including the Reina Sophia, Tokyo Modern, and the Cooper Hewitt Design Museums. Hanson's large figurative sculptures stand prominently in the Atlantis resort, Universal Studios Islands of Adventure, and several Disney theme parks.

In engineering and science, Hanson holds several patents and published in many journals including IEEE Spectrum, Science, and Springer, and worked as PI on NSF and other research awards. Hanson served as National Science Foundation panelist, Chair of IEEE and SPIE special sessions, and as an editor on the Committee of the International Journal of Advanced Robotics Systems. PC Magazine and WIRED described Hanson's work in robotics research as "genius", and Science Magazine labelled Hanson "head of his class" in social robotics. Hanson earned the 2013 World Technology Award in IT Hardware, and a Grand Award in the Hong Kong StartmeupHK venture competition. Hanson also received awards from AAI, NASA, NSF, TechTitans, Tx State Emerging Technology Fund, and best poster and paper awards. Hanson published over 32 peer-reviewed papers with IEEE, Science, Springer, Cog Sci, AAI, SPIE, chapters in 4 books, authored a book with coauthor Yoseph Bar-Cohen, published with Springer Press.

Over 15 years, Dr. Hanson taught a number of graduate and undergrad university courses, and designed educational initiatives and curricula in Industrial Design at the Art Center College of Design in Pasadena, cross-disciplinary studies at RISD, Computer Science and Engineering at UTA, and in fine arts at UNT. He delivered visiting lectures at Stanford, RISD, Brown, Oxford, MIT, Dartmouth, KAIST, and many other universities.

Dr. Hanson received his BFA in Film-Animation-Video from Rhode Island School of Design. He received his Ph.D. from the University of Texas at Dallas in Interactive Arts and Engineering. Hanson also studied as a visiting in C.S. at Brown, Cognitive Science at UCSD (under Prof. Jochen Triesch), and Graduate Fine Art at UCLA (under Prof. Paul McCarthy).

Teaching Experience

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| The University of Texas at Arlington, Dept. of Computer Science & Engineering | 2011-2013 |
| Adjunct Professor | |
| Advised student's robotics projects and collaborated with other professors on robotics and human robotic interaction experiments. Advised graduate students' thesis projects. Resulting research appeared in over two dozen peer-reviewed publications. | |
| The University of North Texas, College of Visual Arts and Design | 2010 |
| Adjunct Professor | |
| Taught a course in Kinetic and Interactive Sculpture, and co-developed the curriculum with David Van Ness. | |
| The University of Texas at Dallas, A-Tech: Interactive Arts and Technology | 2010 |
| Instructor | |
| Taught Independent Study courses in Interactive and Robotic Sculpture. | |
| The Art Center College of Design in Pasadena, Industrial Design. | 2003 |
| Studio Instructor | |

Taught a course in Robotics and Interactive Media to graduate students; co-developed the curriculum with JPL engineer Victor White and Michael Dobry.

Guest lecturer at many other universities including Stanford, Brown, Dartmouth, Oxford, KAIST, University of Messina Medical School (see below for more) 2003-2018

Publications

- M Iklé, B Goertzel, M Bayetta, G Sellman, C Cover, J Allgeier, R Smith, M Sowards, D Shuldberg, M H Leung, A Belayneh, G Smith and D Hanson “Using Tononi Phi to Measure Consciousness of a Cognitive System While Reading and Conversing”, paper number 80: 2019 AAAI Spring Symposium on “Towards Conscious AI Systems.” AAAI, 2019.
- J Mossbridge, B Goertzel, E Monroe, R Mayet, G Nejat, D Hanson, G Yu, “Emotionally-Sensitive AI-driven Android Interactions Improve Social Welfare Through Helping People Access Self-Transcendent States”, AI For Social Good workshop poster <https://aiforsocialgood.github.io/2018/acceptedpapers.htm> NIPS, 2018
- MB Belachew, B Goertzel, D Hanson “Shifting and drifting attention while reading: A case study of nonlinear-dynamical attention allocation in the OpenCog cognitive architecture” - Biologically Inspired Cognitive Architectures, Elsevier, 2018.
- S Park, H Lee, D Hanson, PY Oh, “[Sophia-Hubo's Arm Motion Generation for a Handshake and Gestures](#)”, 15th International Conference on Ubiquitous Robots (UR), 2018 - ieeexplore.ieee.org
- D Hanson, “Entering The Age Of Living Intelligent Systems and Android Society”, Playstation website, 2018.
- D Hanson, “A Human-Computer Interface Device and System”, US Patent publication. 15/508,116, 2017.
- R Lian, B Goertzel, L Vepstas, D Hanson. “Symbol Grounding via Chaining of Morphisms” International Journal of Intelligent Computing and Cybernetics. (IJICC-12-2016-0066), 2017.
- D Hanson, R Hauser, “System and method for controlling intelligent animated characters”, US Patent 9,796,095, 2017
- B Goertzel, J Mossbridge, E Monroe, D Hanson, “Humanoid Robots as Agents of Human Consciousness Expansion”, arXiv: <https://arxiv.org/pdf/1709.07791.pdf> , 2017.
- Goertzel B, Giacomelli S. Hanson D., Pennachin C. “SingularityNET: A decentralized, open market and inter-network for AIs”, White Paper, singularitynet.ai, 2017
- Hanson D., *Humanizing Robots, How making humanoids can make us more human*, Kindle Edition. Amazon.com and Amazon Digital Services, ISBN: 1549659928, September 2, 2017. Print Length: 223 pages, (see https://www.amazon.com/Humanizing-Robots-making-humanoids-human-ebook/dp/B075C9R1FX/ref=sr_1_1?ie=UTF8&qid=1543946322&sr=8-1&keywords=humanizing+robots)
- Bar-Cohen Y., Hanson D., *The Coming Robotics Revolution, Expectations and Fears About Emergent Intelligent Machines*, Mandarin Chinese Translation and 2nd Edition English Release, Chinese Machine Press and Springer Press, 2015.
- Goertzel B, Hanson D, Yu G, “A Software Architecture for Generally Intelligent Humanoid Robotics”, special issue: 5th Annual International Conference on Biologically

- Inspired Cognitive Architectures BICA, *Procedia Computer Science*, Volume 41, Pages 158-163 Elsevier, 2014
- Hanson D, "The Need for Creativity, Aesthetics, and the Arts in the Design of Increasingly Intelligent Humanoid Robots", ICRA Workshop on General Intelligence for Humanoid Robots, 2014.
- Habib A, Das S, Bogdan IC, Hanson D, Popa D, "Learning Human-like Facial Expressions for the Android Phillip K. Dick", ICRA 2014, Hong Kong, AGI for Humanoid Robotics, Workshop Proceedings, 2014.
- Goertzel B, Hanson D, Yu G, "A Roadmap for AGI for Humanoid Robotics", ICRA Hong Kong, AGI for Humanoid Robotics, Workshop Proceedings, 2014.
- Bergman M, Zhuang, Z., Hanson D., Heimbuch B., McDonald M, Palmiero A, Shaffera R, Harnish D, Husband M, Wander J. "Development of an Advanced Respirator Fit-Test Headform", *Journal of Occupational and Environmental Hygiene*. Volume 11, Issue 2, 2014, pages 117-125.
- Hanson D, "Human emulation robot system", US Patent 8,594,839, 2013.
- Bergman, M., Z. Zhuang, R.J. Wander, D. Hanson, B. Heimbuch, M. McDonald et al.: Development of an Advanced Respirator Fit Test Headform. *Journal of Occupational and Environmental Hygiene* (2013).
- Hanson, D. "Progress Towards EAP Actuators for Social Robots", SPIE ElectroActive Polymer Actuators and Devices (EAPAD), San Diego, 2013.
- Hanson, D., Lowcre, M. M. M. "Organic creativity and the physics within. Philadelphia, Amsterdam: Benjamins, 2012.
- Hanson, D., Mazzei, D., Garver, C., De Rossi, D., Stevenson, M., "Realistic Humanlike Robots for Treatment of ASD, Social Training, and Research; Shown to Appeal to Youths with ASD, Cause Physiological Arousal, and Increase Human-to-Human Social Engagement", PETRA (PErvasive Technologies Related to Assistive Environment), 2012.
- Bergman, M.S., Zhuang, Z., Wander, J., Hanson, D., Heimbuch, B., McDonald, M., Palmiero, A., Shaffer, R., Husband, M. "Development of an Advanced Respirator Fit Test Headform", DTIC, 2012.
- Coursey, K., Hanson, D. "Computational Compassion", a self-published paper adapted into "A Novel Human Robot Interaction System Using Affective Theory-of-Mind Computing to Improve User-Responses and Efficacy of Automated Tutoring", a funded phase I SBIR proposal with the National Science Foundation, 2012.
- Bergman, M., Zhuang, Z., Palmiero A., Wander, J., Heimbuch B., McDonald, M., Hanson, D., "Testing of a Novel Advanced Respirator Fit Test Headform", International Society for Respiratory Protection Sixteenth International Conference in Boston, MA, 2012.
- Mazzei, D., Lazzeri, N., Hanson, D., De Rossi, D. "HEFES: An Hybrid Engine for Facial Expressions Synthesis to Control Human-Like Androids and Avatars", The Fourth IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, 2012.
- Bergman, M., Zhuang, Z., Palmiero, A., Wander, J., Heimbuch, B., McDonald, M., Hanson, D., "Development of an Advanced Respirator Fit Test Headform", AIHce in Indianapolis, IN, 2012.
- Hanson, D. "Why We Should Build Humanlike Robots" - IEEE Spectrum, <https://spectrum.ieee.org/automaton/robotics/.../why-we-should-build-humanlike-robots> Apr 1, 2011

- Hanson, D. "Robotics in the World of Entertainment", American Physical Society (APS) March Meeting, 2011 adsabs.harvard.edu, March 21-25, 2011.
- Hanson D., Baurmann S., Riccio T., Margolin R., Dockins T., Tavares M., Carpenter, K., "Zeno: a Cognitive Character", AI Magazine, and special Proc. of AAAI National Conference, Chicago, 2009.
- Bar-Cohen Y., Hanson D., The Coming Robotics Revolution, Springer Press, 2009.
- Mavridis, N., Hanson, D. "The Ibn Sina Center: A case study in Augmented Reality Theater with Intelligent Robotic and Virtual Characters" Proc. IEEE Ro-Man 2009.
- Kasap, Z., Moussa, M., Chaudhuri P., Hanson D., Magnenat-Thalman N., "From Virtual Characters to Robots – A novel paradigm for long term human-robot interaction", ACM/IEEE Human Robot Interaction Conference 2009.
- Poster presentation at IEEE ARSO'08: "Zeno, a Cognitively Capable Character", in Taiwan, 2008.
- Hanson, D. "Humanizing Interfaces-- An Integrative Analysis of the Aesthetics of Humanlike Robots", Ph.D. dissertation, the University of Texas at Dallas, May, 2007.
<https://www.amazon.com/gp/search?index=books&linkCode=qs&keywords=9781109945881>
- Hanson D., Priya S. "An Actuated Skin for Robotic Facial Expressions, NSF Phase 1 Final Report", National Science Foundation STTR award, NSF 05557, 2006-2007.
- Tadesse, Yonas; Priya, Shashank; Stephanou, Harry; Popa, Dan. and Hanson, David "Piezoelectric actuation and sensing for Facial Robotics" Journal of Ferroelectrics, vol. 345, Issue1, pp.13-25, 2006 (12 pages).
- Hanson, David; Bergs, Richard; Tadesse, Yonas; White, Victor. Priya, Shashank "Enhancement of EAP actuated facial expressions by designed chamber geometry in elastomers" Edited by Bar-Cohen, Yoseph, Proceedings of the SPIE , vol. 6168, pp. 49-57, 2006.
- Hanson D. "Expanding the Design Domain of Humanoid Robots", Proc. ICCS CogSci Conference, special session on Android Science, Vancouver, 2006.
- Oh, J.H., Hanson, D., Kim, W.S., Han, Y., Kim, J.Y. and Park, I.W., 2006, "Design of android type humanoid robot albert HUBO," in Proc. IEEE/RJS IROS Robotics Conference, Beijing, 2006. Int. Conf. on Intell. Robots and Sys., IEEE/RSJ, pp. 14F-1433.
- Hanson D., Bergs R. , Tadesse Y. , White V. , Priya S. "Enhancement of EAP Actuated Facial Expressions by Designed Chamber Geometry in Elastomers", Proc. SPIE's Electroactive Polymer Actuators and Devices Conf., 10TH Smart Structures and Materials Symposium, San Diego, USA, 2006.
- Hanson D. "Expanding the Aesthetics Possibilities for Humanlike Robots", Proc. IEEE Humanoid Robotics Conference, special session on the Uncanny Valley; Tskuba, Japan, December 2005.
- Hanson D. "Bioinspired Robotics", chapter 16 in the book Biomimetics, ed. Yoseph Bar-Cohen, CRC Press, October 2005.
- Hanson D., Olney A., Prilliman S., Mathews E., Zielke M., Hammons D., Fernandez R., Stephanou H., "Upending the Uncanny Valley", Proc. AAAI's National Conference, Pittsburgh, 2005.
- Hanson D., White V. "Converging the Capabilities of ElectroActive Polymer Artificial Muscles and the Requirements of Bio-inspired Robotics", Proc. SPIE's Electroactive

- Polymer Actuators and Devices Conf., 10TH Smart Structures and Materials Symposium, San Diego, USA, 2004.
- Hanson D. "The Neural Basis of the Uncanny Valley", graduate research paper for Alice O'Toole in UTD Brain Sciences. Sept, 2003. Published online at www.human-robot.org.
- Hanson D., "Chapter 18: Applications for Electrically Actuated Polymer Actuators," in Electrically Actuated Polymer Actuators as Artificial Muscles, Bar-Cohen Y. (Ed.) SPIE PRESS, Washington, USA, Vol. PM98, 2nd ed. March 2004.
- Hanson D., Rus D., Canvin S., Schmeierer G., "Applications of Bio-inspired Robotics", Ch.10 of Biologically Inspired Intelligent Robots. Bar-Cohen, Y and Breazeal, C. (Ed.) SPIE Press, May 2003.
- Hanson, D. "EAP Actuator Design for Biologically-inspired Face-Based Communication Robots". Proc. SPIE's Electroactive Polymer Actuators and Devices Conf., 9th Smart Structures and Materials Symposium, San Diego, USA, 2003.
- Pioggia G., Hanson D., Dinelli S., Di Francesco F., Francesconi R., De Rossi D. "The Importance of Nonverbal Expression to the Emergence of Emotive Artificial Intelligence Systems", [4695-51], Proc. SPIE's Electroactive Polymer Actuators and Devices Conf., 8th Smart Structures and Materials Symposium, San Diego, USA, 2003.
- Hanson, D. "Bio-inspired Facial Expression Interface for Emotive Robots", Proc. AAAI National Conference in Edmonton, CA, 2002.
- Hanson D. and Pioggia G., "Entertainment Applications for Electrically Actuated Polymer Actuators," Ch 18 of Electrically Actuated Polymer Actuators as Artificial Muscles, SPIE PRESS, Washington, USA, Vol. PM98, Ch. 18, 2001.
- Hanson D., Pioggia G., Bar-Cohen Y., De Rossi D., "Androids: Application of EAP as Artificial Muscles to Entertainment Industry," Proc. SPIE's Electroactive Polymer Actuators and Devices Conf., 7TH Smart Structures and Materials Symposium, Newport Beach, USA, 2001.
- JPL EAPAD newsletter, artificial muscle articles and editorials: 2001, fall 2002, 2004, 2006.
- Hanson, David, "Robotic Party Architecture and the BlissJockey" a paper describing a robotics and AI system for psychoactive AI-powered robotic architecture, for RISD independent study and Brown University Special Topics in CS class, 1994.
- Hanson, David, "Out of Body Experience and Tele-robotics" a paper describing a telepresence system using humanoid robots and AI, and describing the prototype robot built entitled "Scuttling Head"; written for RISD independent study with Gary Metz, and Brown University Special Topics in CS class with Tom Dean, 1994.

Lectures

- Siggraph Asia, Panel on Uncanny Valley, Tokyo, 2018.
- World Technology Forum, 2018.
- World Investment Forum, UN, 2018.
- World Youth Forum, 2018.
- AI For Good Summit, ITU, UN, 2017 & 2018.
- Web Summit 2018

NATO 2018.

CogX, 2017, 2018.

United Nations General Assembly, Joint Sessions 2017

ICRA 2017.

USC School for Cinematic Arts, 2017.

Tonight Show with Jimmy Fallon, 2017.

World Economic Forum, “Artificial Intelligence: Balancing Opportunity and Responsibility”, Accenture Panel, with Devin Wenig, CEO eBay, Paul Daugherty Chief Technology and Innovation Officer, Accenture, and Moderated by Jessi Hempel, Head of Editorial for Backchannel at the WIRED Media Group. 2017.

DLD, Panel on the Future of Bots, 2017.

Fintech Ideas Festival, 2017.

CES, “Improving Human-Robot Interaction with AI”, Moderator: Steve Crowe, Managing Editor, Robotics Trends, co-panelists Steve Carlin, GM & Vice President of Marketing, SoftBank Robotics America, and Andy Rifkin, Chief Technology Officer, Hanson Robotics, 2017

Disney Accelerator Demo Day, 2016.

SxSW, 2016

MIT Technology Forum, Seattle WA, 2016.

University of Texas at Dallas Awards Gala, 2016.

AGI Berlin, 2015.

Hong Kong Polytechnic University School of Design, 2015.

DLD—Digital Life Design, Munich 2015.

Stanford University, business/engineering course on robotics and commerce, 2014.

Kinnernet Italy, “Robots Are People Too”, 2014.

ROS-Kong, the Hong Kong ROS Robot Operating System conference, “Adapting and Integrating Blender and ROS for Character Robots”, 2014.

ICRA, Keynote Speaker, Workshop on General Intelligence for Humanoid Robots, “The Need for Creativity, Aesthetics, and the Arts in the Design of Increasingly Intelligent Humanoid Robots”, 2014.

Virtual Physiological Human Conference, Keynote, Trondheim France, 2014.

HK-Invest, Medical Robotics Presentation for the StartmeupHK Entrepreneurship Week, 2013.

World Technology Summit, “The Transformational Impact of Genius Machines”, November, 2013.

Stanford University, Robotics and Commerce class, “Open Genius Machines and Character Robotics” October 31, 2013.

SAS-2013, Keynote Speaker “Intelligent, Embodied Animation--when art comes to life, literally”, Annual Conference for the Society for Animation Studies, hosted by the USC School for Cinematic Arts, 2013

DreamWorks, Invited Speaker “Generally Intelligent Characters as the Future of Animation--Art that Comes to Life”, Glendale, 2013.

AGI-13, co-speaker with Ben Goertzel in the special session on Cognitive Robotics and AGI: “Anthroid (Human-Like) Robots for AGI and Telepresence”, Beijing, 2013.

Hong Kong Polytechnic University, Design Department, 2013.

Children’s Workshop Elementary School, 2013.

Oxford AGI-12 (Artificial General Intelligence), Oxford University, Keynote lecture, “Open Genius Machines”, 2012.

The Atlantic Magazine Big Science Summit”, Menlo Park, 2012.

TEDx Taipei, 2012.

TEDx Hong Kong, 2012.

University of Texas Chancellors’ Meeting, May, 2012.

IIT Roorkee, Cognizance, March, 2012.

IIT Delhi, January 2012.

UT Arlington Entrepreneurship Symposium, January 2012.

H+, Hong Kong, December 5, 2011.

North Texas Mensa, February and November, 2011.

UT Dallas, Interactive Arts Classes, 2005, 2006, 2007, 2009, 2011.

Weta Workshops, Wellington, NZ, 2011

University of Auckland, Robotics Department, NZ, 2011.

Morgo Entrepreneurship Workshop, NZ, 2011.

Lorentz Center Workshop on Creativity, Mechanisms and Methods. University of Leiden, Netherlands. “Physical Mechanisms of Creativity”. September 2011.

Radiolab, National Public Radio, 2011.

THNK—The Amsterdam School of Creative Leadership. Visiting faculty, “Integrative Creativity”, April 2011.

American Physical Society (APS), invited talk: “Robotics in the World of Entertainment”, 2011.

Speaker at IEEE Human Robot Interaction (HRI), “Design Effects on Human Expectations When Interacting with Humanlike Robots”, 2011.

“Aesthetic Effects on Expectations with Humanlike Robots”, unveiling the new Zeno Robokind robot. Eastfield Community College, National Robotics Week guest lecturer, invited National Science Foundation speaker, March 2011.

Texas A&M University, National Robotics Week guest lecturer, invited National Science Foundation (NSF) speaker, March 2011.

Pragyan’11, Chennai India, guest lecturer, February 2011.

American Physical Society (APS), invited talk: “Robotics in the World of Entertainment”, 2011.

Boys and Girls Club, robotics club “Humanlike Robots”. Plano, TX, 2011.

Human Robot Interaction (HRI), IEEE workshop on Managing Expectations in Human Robot Interactions—Lausanne, Switzerland, 2011.

ASME session chair, “Biomimetic Robotics”, 2011.

Disney Imagineering, invited speaker, “Future of Intelligent Character Robotics” 2010.

IEEE Human Robot Interaction (HRI), invited speaker, “Exploring Aesthetic Principles for Designing Humanoid Robots”, 2010.

USC School of Cinematic Arts, 2010.

Speaker at Long Branch Elementary School, 2010.

Carnegie Mellon, 2010.

The Palermo Academy of Fine Arts, 2009.

Rhode Island School of Design (RISD), 2008, 2009.

Guest lecturer at the University of Pisa, 2009.

Carrere Academy of Art, “Figurative Robotic Arts” 2009.

U. Messina Medical School, Workshop on Assistive Technologies, “Humanoid Robots for Autism Treatment” 2009.

Consumer Electronics Show (CES), “Character Robotics”, special session on Robotics, 2009.

Ideacity, Toronto CA, 2008.

FMX, 2008.

CEBIT, 2008.

New Zealand Consulate, Hamburg 2008.

Brown University Humanoid Robotics Lab, 2008.

Dartmouth, 2006, 2007.

Sung Kyun Kwan University, 2008.

USC ICT, 2008.

U. Penn, 2007.

Drexel, 2007.

DARPA FACE workshops, 2005, 2006, 2007.

Richland College, 2006.

MIT, 2006.

KAIST, 2005, 2006.

Google TechTalk, 2005.

EyeBeam, NYC, 2005.

Society for Medical Innovation and Technology (SMIT), 2005.

Exhibitor and Speaker, AAAI National Conference on Artificial Intelligence, 2005.

Google tech talk, 2005.

SPIE Smart Materials and Structures Conference, Electroactive Polymer Actuators and Devices (EAPAD) Symposium, San Diego, CA, March 2001, 2002, 2003, and 2004.

WIRED Nextfest, 2003, 2004, 2005.

University of Memphis IIT, 2004, 2005.

The University of Washington HitLab, 2004.

The University of Canterbury HitLab, 2004.

Telecom Tech Group, 2004.

Co-organizer and Speaker at the 2003 American Association for the Advancement of Science (AAAS) Annual Meeting in Denver CO, of a symposium entitled “Biologically Inspired Intelligent Robotics”. Co-organized with Yoseph Bar-Cohen of JPL/CalTech and Cynthia Breazeal of the MIT AI lab. 2003.

Sandia National Laboratories, “Cognitive Systems Workshop”, Santa Fe New Mexico, July 2003. Talk entitled: “Facial Verisimilitude in Robotics as a Tool for Understanding Human Social Cognition”. 2003.

International Workshop on Perceptive Social Agents and Robots in San Diego, Jan. 9-10, 2003.

AAAI, “Identity Emulation; integrated aesthetic robotics”, Edmonton CA, August 2002.

Awards & Honors

Frost and Sullivan Innovators award, 2018.

RISD Alum of the Year, 2018.

World Investment Forum “GameChanger”, 2018.

Edison Award, 2017.

CogX Award Finalist in the {Rising Star} category of #CogX AI-Awards@cognition_x., 2017

UTD Alumnus of the Year, and Distinguished Alumnus Award for Arts and Humanities, the University of Texas at Dallas, 2014 and 2016.

World Technology Award, 1st place winner, Best IT Hardware, 2013.

STARTMEUPHK Venture Programme Grand Award Winner, best of 384 competitors, 2013.

Top Innovator Award, SIIA, with RoboKind Robotics for “Robots4Autism Therapy Program” Voted Most Innovative by the Education Division of the Software & Information Industry Association (SIIA), 2013.

Patent Awarded: Hanson D, “Human emulation robot system”, US Patent 8,594,839, 2013.

ITF Award Co-winner, Hong Kong City research award, with PI Gino Yu and co-PI Ben Goertzel, 2012-2015.

Invited Speaker, TEDx Taipei and TEDx Hong Kong, 2012.

UTD Distinguished Alumnus Award, Alumnus Of The Year, Arts And Humanities, The University Of Texas At Dallas 2012.

NSF SBIR Grant; co-winner and co-PI with PI Kino Coursey, via Hanson Robokind, 2012.

Co-Recipient DARPA Robotics Challenge Grant under Pi Dan Popa, UTA's Research Institute (UTARI), 2012.

Co-recipient National Science Foundation Robotics Initiative Grant, Under Pi Dan Popa Of UTA's Research Institute (UTARI), developing sensitive, lifelike prosthetics using Frubber, in collaboration with Advanced Arm Dynamics and Hanson Robotics, 2012.

Co-winner of Texas Medical Research Collaborative (TXMRC) Grant (with Corecipients Dan Popa and Nicolieri Bagnaru, UTA), 2012.

Senior Research Fellow, Nanyang Technological University (NTU), 2012-2013.

Winner and PI, Air Force Research Labs (AFRL) Research Award for \$729k USD: “Improving Respirator Testing with Hanson Robotics’ Technologies”, using Hanson robotic faces to test respirators’ protection against pathogenic nanoparticulates such as H1N1, anthrax and radioactive materials. 2011-2013.

Art Futura, Invited Artist, Exhibitor and Speaker: Technopolis, Buenos Airies. 2011.

Winner of 2009 Italian Centro Nazionale Riserche (CNR) Scholarship—6 Months Collaborating On Robots In Autism Research With The University Of Pisa, Stella Maris Neurological Hospital And The University Of Messina, 2008-2009.

Winner of TechTitan’s “Innovator Of The Year” Award, 2007.

Winner of TX Emerging Technology Award, 2007.

Cooper Hewitt Smithsonian Design Triennial, 2006. Awardee, Exhibitor, Panelist, Speaker.

“Top 10 Coolest Robots”: [Http://myamazingfact.blogspot.com/2008/09/10coolest-robots.html](http://myamazingfact.blogspot.com/2008/09/10coolest-robots.html), Techeblog, [Www.oddee.com](http://www.oddee.com), and many other top-10 lists. 2004-Present.

Co-winner, Co-founder, Contract Awardee, for the European INDIGO Consortium of Cognitive Robotics, winning over \$6M Euro in EU funding, completing several robots and novel open-source software, resulting in over a dozen publications. Several Hanson Robots were created for this research, including the Alice robot installed at the Mira-lab with Nadia Magenot Thalmann, and the Aleph robot in Athens at FORTH and museum of Hellenic history. <http://www.ics.forth.gr/indigo/>. 2006-2011.

Co-Recipient of 1st Place Award for Outstanding Clinical Poster Presentation at the 12th Biennial International Conference On Reconstructive Preprosthetic Surgery, with Dr. Kenneth Kent, "Robotic Animation Of Facial Prostheses". 2006.

Front-page of NY Times Science Section, 2005, 2010, 2013.

Cover of WIRED Magazine, 2005, 2006.

WIRED Magazine Top-50 Robots of All Time. Appearing on the magazine cover, Albert Hubo robot ranked the #17 greatest robot of all history, in collaboration with KAIST Hubo Group, using Hanson’s Einstein portrait atop the KAIST walking Hubo robot.

KAIST “ALBERT HUBO” greeted world leaders at the APEC summit in Busan Korea, in November 2005; Also at the Winter Olympics in Turin Italy, February 2006.

Cover of Popular Science magazine, 2003, 2004.

Patent Awarded: “A Human Emulation Robot System”, issued September 2006, (priority dated to June 2002). Two more patents pending.

UTA ARRI Innovation Award, February 2006.

AAAI Award, First Place for Open Interaction, shared with Andrew Olney for the PKD Android, 2005

PI on NSF STTR Award to investigate piezo-polymer composite EAP actuators in Frubber facial expressions, with Co-PI Shashank Priya of ARRI.

WIRED Nextfest, 2006. Exhibitor and panellist showing Jules the Androgynoid (made for the University of the West of England), and also with the walking Albert Einstein robot (made in collaboration with the KAIST Hubo group—Hanson made the head, and KAIST made the body).

WIRED Magazine Nextfest, 2005, Chicago, June 05. “PKD-A, Philip K Dick android”. Also featured exhibitor at Nextfest ‘04, ‘06, ‘07 and ‘08.

Featured in Wired Magazine, July 2004, June _05, January ‘06, March ‘06, and online 2008, 2010, 2013.

WIRED Magazine, PC Magazine and Popular Science each labelled Hanson and his work “Genius”. 2004-2007.

World Technology Award, Nominee & Semifinalist: Best IT Hardware. 2004

NIST ATP Award, 2004, under my leadership, my team and I won a “highly meritorious” designation, with a proposal recommended for \$2M USD funding (subsequently cancelled by congressional funding cuts in 2005).

TED exhibitor, Monterey CA, Feb, 2004.

JPL Open House 2002, 2003, AND 2005. Presenting my robots with the JPL Advanced Actuators Lab.

Co-organizer and Speaker at the 2003 American Association for The Advancement of Science (AAAS) Annual Meeting in Denver CO, of a symposium entitled “Biologically Inspired Intelligent Robotics”. Co-organized with Yoseph Bar-Cohen of JPL/CalTech and Cynthia Breazeal of the MIT AI lab. 2003

Science Magazine described Hanson as “Head of his Class” in Social Robotics. 2003.

Themed Entertainment Association (TEA), Best Themed Display Award, Team shared 1st Place for the “World of Disney Themed store”, at Walt Disney World, Orlando. 1996.

NASA Inventions And Contributions Space Act Monetary Award: Team shared 2nd Place. NASA prize for best invention of the year, awarded to Dr. Heinrich Gerritsen, Mary Lou Jepson and myself for a novel space shuttle lighting system. Using a custom Fourier transform light-filter, this device output a nearly perfect diffusion of light, useful for science experiments and reducing astronaut eye-fatigue. 1994.

Odyssey of the Mind, First Place Winner, Worldwide. My team and I designed and built a robotic vehicle to navigate an obstacle course, automatically dock to a trailer, gather objects, and deliver them to a designated area, and we designed and constructed a themed set and costumes. 1992.

Rhode Island School Of Design (RISD) Merit Award scholarship, 1992-1996.

Vice President, RISD Student Government, 1995-1996.

Winner 2nd place Texas State Poetry award, 1987.

Co-winner of North Texas UIL one act play competition, for lead performance as Tartuffe in Moliere’s “Tartuffe”, 1987.

Outreach, Community Service, Professional Memberships

Co-Founder SingularityNet, Chairman of the Board, 2017-2018

Member: World Economic Forum’s Expert Network.

Participation on US Presidential round table discussion on roadmap for ethics and safety of autonomous robotics in the U.S. military, Washington D.C., 2014.

Initiator and Co-Chair, ICRA Workshop: General Intelligence for Humanoid Robots, 2014.

Founder and Chair of the Initiative for Awakening Machines (I.A.M), a not-for-profit corporation founded in 2010, dedicated to realizing fully conscious intelligent machines. 2010-Present.

Co-Founder and director of the GENI-Lab—a robotics creativity centre at the Hong Kong Science Park, dedicated to open, creative collaboration in the pursuit of friendly robotics research. In collaboration with Ben Goertzel, Mark Tilden, Gino Yu, and Jong Lee, Hanson proposed and secured resources to build a research space, garnering support from government officials and leading robotics, A.I., and business figures and organizations, in the form of 8000 square feet of laboratory space, \$10M for rapid prototyping and robotics fabrication equipment, and \$3M commitment for an open-source robotics data center and administrative support. 2013-Present.

Open Source Release of Hanson Robotics' A.I. code and IP under the Apache and GPL licenses, and otherwise put most Hanson Robotics IP into the public domain, 2004-Present.

Editor on the Editorial Board of the International Journal of Advanced Robotic Systems, 2012.

Open Cog Foundation, Collaboration and participation with Open Cog, an open source AGI project. Donated two Hanson Robots for Open Cog research, 2013, and participated in grant applications and subsequent research. 2011-Present.

Participation in the University of Texas at Arlington Next-Gen Robotics group, loaning the Philip K Dick android for A.I. research, providing both doctoral and undergraduate access. Mentored several UTA students in the group, 2011-2014.

Hosting school students' visits to Hanson Robotics' research and manufacturing facilities every year from 2006-Present.

Co-chair Of The AGI-13 Special Session On Cognitive Robotics And Agi, And Keynote Speaker: "the Role Of Design Aesthetics In The Pursuit Of Genius Machines", AGI-13, Beijing, 2013.

Editor and Editorial Boardmember, International Journal of Advanced Robotics Systems, 2010-Present.

Participation in Huffington Post live video round tables on robots ethics, 2012 and 2013.

Keynote Speaker, Oxford University, Artificial General Intelligence (AGI), 2012.

Demonstrated the Philip K Dick Android to the day students and the Asperger's night social group at the Dallas Autism Treatment Center, giving a lecture and discussing career options with attendees. 2011, 2012.

Provided the Philip K Dick android and Zeno RoboKind robots for the Dallas Autism Treatment Center annual Roundup fundraiser, 2011 and 2012.

Research and service at the Dallas Autism Treatment Center. Showing robots to children, conducting research, co-developing autism treatment curriculum in collaboration with Clinical Director Dr. Carolyn Garver and UTD/Callier Center researcher Dr. Pamela Rollins, Dr. Kathy Quill, and ATC clinician Kellie Reynolds. 2010-2013

Elementary school workshops and demos. Meeting with students and giving robotics demonstrations and presentations at several elementary schools including Speaker at

Long Branch Elementary School, Washington DC, Harrington Elementary and the Children's Workshop Elementary School in Plano TX, and HK Island Christian Academy, 2006-2013.

Chair of ASME Biomimetic Robotics Workshop, 2011

National Science Foundation (NSF) Review Panelist, 2009-2011.

National Science Foundation, Pire Award Committee Member, 2010.

Associate Editor, IEEE Humanoids, 2010.

MENSA member since 2012.

Speaker at north Texas Mensa meetings in 2011 and 2012.

O.T.O. member 2010 to present.

Advisory committee, North Texas First Robotics, 2008-2011.

Boys and Girls Club Plano, presentation and demonstration of Zeno robot. 2011.

Advisor for students at UTA and UTD, 2004-2011.

Advisor for Sloan Award-winning film project "Temma", for filmmaker Anya Meksyn, 2008-2011.

Steering Committee for TEDx SMU, 2009.

Co-founder and author of the UTD Computer Gaming and Tech Entrepreneurship competitions, with Kingdon Hughes and Thomas Linehan, organizing \$25k USD funding for prizes for the competitors, 2006-07.

Founder and leader of the Philip K Dick Android project: organizing and collaborating with the University of Texas at Arlington, University of Memphis, University of Texas at Dallas, Dutch Public Broadcasting, the PKD Trust, Disco Hospital, Daxtron Labs, Hanson Robotics, Wired Magazine Nextfest, Andrew Olney, Kino Coursey, Kristen Nelson, Steve Aydt, Art Graesser, Bill Hicks, Amanda Hanson, Elaine Hanson, Direct Dimensions, MultiModal Speech Technologies, and many others, to create an AI-powered, robotic resurrection of sci-fi author Philip K Dick, which would spontaneously generate original conversations with people, based on 7000 pages of Philip K Dick's writings, a common-sense reasoning and NLG engine, and a personality based on a psychological model and artistic interpretation of the author's personality. Initiated in 2004, this ongoing project has seen the construction of 2 versions of the robot, and numerous versions of the intelligent software, with the goal of achieving a truly sentient and creative version of the PKD portait robot. Currently the research on the PKD android continues in fields of AI, robotics and narrative at the UT Arlington Next-Gen Systems Robotics Group, Hanson Robotics, Daxtron Labs, and the Initiative for Awakening Machines.

Lead Organizer of a symposium for the 2003 American Association for the Advancement of Science (AAAS) Annual Meeting in Denver CO, entitled "Biologically Inspired Intelligent Robotics", in collaboration with Yoseph Bar-Cohen of JPL/CalTech and Cynthia Breazeal of the MIT AI lab.

Co-founder of the Precision Simian Social and Pleasure Club, dedicated to realizing theatrical art-technology spectacles in Dallas TX, 1995-1996.

Vice-President of Rhode Island School of Design Student Government, 1995-96.

Co-Founder and officer of the Rhode Island School of Design art-tech club “Inter Alia”, 1993-96.

Secretary of Rhode Island School of Design Student Government, 1994-1995.

Co-organizer of the 1994 and 1995 RISD-Brown art+tech festival PONG, bringing in Laurie Anderson.

Organizer and Chair of the “MIRACLES AND MONSTROSITIES” 1994 symposium on genetically engineered art, at RISD-Brown art+tech festival PONG.

Co-organizer of Design for Emerging Technologies class in the Industrial Design dept. at RISD, with Mickey Ackerman, chair of ID, and other members of the Inter Alia Art-tech club, which included Richard Saul Wurmann as co-teacher, and visiting classes at the MIT Media Lab. 1994.

Served on the RISD Admissions Committee, 1995-1996.

Served on the RISD Steering and Long-term Planning Committees, 1995-1996.

Member of the Brown Robotics Club, 1994-1996.

MEMBER American Association for the Advancement of Science (AAAS) since 2000.

MEMBER American Association for Artificial Intelligence (AAAI), since 2001.

MEMBER SPIE, since 2001.

Exhibitions and Art Shows

World Economic Forum “Benevolent Machines” with Sophia, 2017.

Clockenflap, Sophia performed “All is Full of Love” with Ben Goertzel and Audrey Brown and Amanda Hanson, 2016.

KINNERNET Italy: “Authoring Human Robots, with Sophia”, 2016.

SxSW: “Sophia”, 2016.

Cannes, films “Sophia Awakens” and “The White King”, Sophia acting, 2016.

AGI 2015.

KINNERNET Italy: “Robots are People Too”, 2014.

VIRTUALE: PKD Android; Virtual Physiological Human Conference, Laval France, 2014.

SAS-2013, Philip K Dick Android, Annual Conference for the Society for Animation Studies, hosted by the USC School for Cinematic Arts, 2013

PKD Android, DreamWorks, 2013.

HUMANOIDS-2013, Philip K Dick Android and Zeno RoboKind, Atlanta, 2013.

“BINA 48” AND “THE ANDROID PORTRAIT OF PHILIP K DICK”, AGI, OXFORD, 2012.

“DIEGO SAN”, at UCSD. Built as a Renaissance-style figurative work in the media of robotics, this robotic baby boy was built with funding from the National Science Foundation, and serves cognitive robotics and humanrobot interaction research. 2012.

NSTA, "Robokind Robots", National Science Teachers Association (NSTA) National Conferences on Science Education. Indianapolis 2012, Austin 2013.

ART FUTURA: TECNOPOLIS. "GHOST MACHINES", Intelligent robotics, mixed media. Buenos Aires, August, 2011.

MUSEUM OF SCIENCE AND INDUSTRY, "ZENO MACHINE", CHICAGO, 2011.

SINGULARITY SUMMIT, "ZENO MACHINE", a conversational portrait of Zeno of Elea, September 2010.

"BINA MACHINA, ROBOTIC PORTRAIT OF BINA ROTHBLATT", Terasem Movement Ashram, Bristol VT, 2010. Reviewed on the front page of the NY Times, 2010

ACADEMY OF FINE ARTS IN CARRARA, MIA ALICE ROBOTIC SCULPTURE, May 2009.

TAIPEI MUSEUM OF MODERN ART, "FUTURE FACE", 2009.

THE ACADEMY OF FINE ARTS IN PALERMO, SICILY, MIA-ALICE, June 2009.

TED, "Computational Compassion" talk & display of robotic sculptures, 2009.

"SOULS AND MACHINES" ART SHOW at the Reina Sofia museum in Madrid. Work entitled "JULIO", in collaboration with musician David Byrne, 2008.

"ART FUTURA", ZENO ROBOT, in Barcelona, summer 2008.

"FAST FORWARD", Museum of Science and Industry in Chicago, 2008-2009.

TOKYO MODERN, "FUTURE FACE", 2007.

"FRANKIE", in the EXPLORATORIUM SCIENCE MUSEUM, 2007.

VITRA DESIGN MUSEUM, "Future Face" Show, 2006.

"LIL PUNCTUM" in the "SECOND SKIN" SHOW, representing the Cooper Hewitt Design Museum in Essen Germany, summer 2006.

COOPER HEWITT SMITHSONIAN DESIGN TRIENNIAL, 2006-2008.

"ALBERT HUBO" at the APEC summit in Busan Korea, NOVEMBER 2005. Also showed at the winter Olympics, in Turin Italy, February 2006, at Nextfest 2006 and 2007, and in Dubai in 2008.

EYEBEAM, NY NY, speaker and panelist, on robotic sculptures, Nov. 2005.

"PHILIP K DICK ANDROID PORTRAIT, with Valis Room", In Unreal Show at the University of Texas, Dallas, September-November 2005. Reviewed in the NY Times, Washington Post, Chicago Sun, WIRED, Juxtapose, and many other journals.

OGDEN MUSEUM, New Orleans, "Philip K Dick Android" August 2005.

WIRED Magazine Nextfest, 2005, A World Technology-festival, Chicago, June 05. "PKD-A, an Android Portrait Of Philip K Dick".

TED, Robotic Art Display: Kbot And Stinky Dick The Pirate, 2004.

AAAI Exhibitor and Speaker, 2005 AAAI National Conference On Artificial Intelligence.

"McANIMOUS" Group Show At Market Gallery, Los Angeles 2004.

RISD ALUMNI SHOW, Los Angeles 2003. "The Illusion of Free Will". A walking dog toy, atop spidery fishing-pole legs, hangs by its leash from a longer fishing pole that is mounted to the gallery wall. The nonlinear forces compel the toy to dance around in

- eerily lifelike patterns, creating the illusion of futile desire and effort to escape from the fishing pole's strange attractor. 2003.
- "GYMNOSOPHORE", Sculpture Show And Installation, 2001; Side Street Gallery, L.A. A two-man show with David Deaney, Gymnosophore offered functioning, sculpted hot-tubs for the use of visitors. Reviewed favorably in the Los Angeles Times art reviews by lead critic Christopher Knight.
- TOKYO DISNEYLAND Themepark, Sculpted numerous features in Pooh's Hunny Hunt, serving as lead sculptor on the character trees and Heffalump balloons. 1999.
- TOKYO DISNEYSEA Theme Park, Sculpted numerous props and characters, including parts of Mermaid Lagoon, Ariel's Grotto, 20,000 Leagues Under the Sea and others. 1999.
- UNIVERSAL STUDIOS Islands of Adventure, Orlando, FL, Sculpted several mythical creatures for the Atlantis Island. 1998.
- ATLANTIS Casino Resort, Paradise Island, Bahamas; Designed and sculpted numerous figurative works, including signature marlins (23' tall), seahorses (14' tall), nautili (14' long), seashells (up to 18' tall), and light fixtures. 1998.
- UNIVERSAL STUDIOS THEMEPARK, Orlando, Fl, Sculpted several parade floats, including signature dragons, via contract at Kern Sculpture Company. 1997.
- WALT DISNEY WORLD, World of Disney Themestore, Co-sculpted and co-painted the Peter Pan Crocodiles and the Alice in Wonderland, which won a TEA best display of the year award. 1996
- "BLISSKRIEG—ENTER THE GYMNASIUM". An immersive performance environment, encouraging participation, disorientation, creative scheming, and unsettling transformation. Inspired by theme-park dark rides, ancient theatrical and shamanistic rituals, and Living Theater, this 25,000sf "Gymnasium" had custom, surreal architecture including waterslides, a running river, and Cabala labyrinth with nodes of sensual delight. The evening was run like an opera, with a climax of the dam opening to release a flood of 40,000 gallons of water to wash over the entire space. This work represented the culmination of the "gymnasium" series (1991-1995). With David Hanson as founder and leader, this event was built in collaboration with dozens of artists and several DFW-area arts groups: the Diabolocrats, Good-Bad, Hazy Daze and others. 1995.
- "GYMNASIUM", RISD Promenade and Auditorium. An immersive, theatrical hot-tub performance, with "Behavior Imperatives" involving sit-com improvisation via RPA rules, this Gymnasium inspired participation from dozens of RISD students including Seth MacFarlin. 1995.
- "PRIMORDIAL OOZE BATH," Sculpture Installation on the Risd Green. 70 feet wide and 40 feet long, this yoni-lingual swimming-hole sprayed 1200 gallons of seaweed goo (carageenan) over hundreds of playful students, philosophically investigating the physics of creativity, garnering favorable reviews from CNN's Headline News, the front page of Providence Journal Bulletin, the L.A. Times, and the Chicago Tribune. This work was third in the Gymnasium series of performance-architectures.

- “RPA—ROBOTIC PARTY ARCHITECTURE”. Automated psychoactive architecture, designed to unlock wonder, creativity, and participation in the audience. This concept was designed for a Brown CS course, under the advice of Tom Dean, culminating in a term paper by the same name—RPA. Principles from RPA were used in numerous subsequent events including the Primordial Ooze Bath, Gymnasium, Disturbathon, and the robotic personalities of my androids. 1994-1995.
- “PROTOGYMNASIUM”—A “BEHAVIOR IMPERATIVE HAPPENING”. A performance-event with performance edicts given weeks in advance to invitees, the protogymnasia engendered structured participatory improvisation, resulting in surprising, emergent imagery and experiences. 1994.
- “SAUSAGE-MANHOOD”, A PUBLIC PERFORMANCE AT 2 COLLEGE STREET. This McCarthyesque performance involved myself performing as a macho character in tshirt and tighty-whitey BVDs from which protruded a 40-foot sausage, running down the street, supported by 8 small stands. As the character postures in various forms typical of male pride, the sausage “Manhood” moves and sways in response. After a few minutes the Manhood begins to disintegrate. Startled, the character attempts to put his Manhood back together, while struggling to retain the semblance of his male posturing. As the Manhood breaks into ever smaller pieces, the character devolves into a whining infantile state and his futile efforts to put his Manhood together again results in just an armful of entrails spilling repeatedly to the sidewalk while the character keens for his loss of his Manhood, in a dance reflecting the timeless plight of disintegrating male ego and the absurd strange attractors driving this gender.
- “SCUTTLING HEAD,” My first humanoid Robot, built for a RISD independent study with prof. Gary Metz, and displayed at Brown/RISD festival of Art and Technology Festival called “PONG”, 1995. This robotic self-portrait functioned as a human-relations telepresence robot. My sculpted robotic likeness rode atop a retractable 5’ stalk emerging from an agile robotic rover, receiving control signals from a distant user for robotic head gestures, while transmitting video and 2-way audio to facilitate distant conversation. 1995.
- “DISTURBATHON”, Dallas TX. Founded by David Hanson, this immersive, primal performance environment (in the guise-of a Halloween party) extends traditions of Fluxus and Living Theater to inspire participation from the audience to challenge and disrupt the grip of arbitrary fears and taboos, seeking to thereby open doors for novel creative play. With an operatic theatrical set and labyrinthine interstices, the environment requires participants to push through cave complexes, swim through pumpkin pie, mud, or jello, and emerge into dreamlike zones of baroque mischief. Planned events and instigations implemented by finite state theatre design practice, and robotic party control elements, provide powerful psychoactive stimuli to inspire Nietchesque improvisational comedy. When done well, Disturbathon elicits liminal states that can be likened to a Lascoux of the 21st century—an initiatory process that tends to compel one to reconsider the meaning of traditional precepts of human identity, and opening one to hidden wonders of life and existence. 1989 to Present.

Press Attention

Numerous media and press outlets regularly feature Dr. Hanson, including the NY Times, Scientific American, The Figaro, The New Yorker, Smithsonian Magazine, Science Magazine, Discover Magazine, Popular Science, Prophets of Science Fiction, Nova, Through the Wormhole, Good Morning America, the BBC, CNN, and National Geographic. Here are select articles:

<http://www.forbes.com/sites/daviddisalvo/2013/01/16/welcome-to-the-age-of-emotionally-relevant-robotics/>

<http://www.nytimes.com/2013/09/10/science/improving-respirator-masks-to-put-fresh-air-in-reach.html?pagewanted%253Dall&r=0>

<http://www.bbc.com/future/story/20130901-is-the-uncanny-valley-real>

<http://spectrum.ieee.org/automaton/robotics/humanoids/why-we-should-build-humanlike-robots>

<http://www.pbs.org/wgbh/nova/tech/social-robots.html>

<http://www.gq.com/news-politics/big-issues/201103/robots-say-the-damnedest-things>

<http://spectrum.ieee.org/automaton/robotics/humanoids/david-hanson-robot-heads>

<http://discovermagazine.com/photos/body-shop-where-life-like-androids-born>

http://www.ted.com/talks/david_hanson_robots_that_relate_to_you.html

http://www.acm.org/ubiquity/interviews/v7i18_hanson.html

<http://www.absolutearts.com/artsnews/2001/04/02/28321.html>

http://news.cnet.com/8301-17938_105-10391357-1.html

http://www.newyorker.com/reporting/2009/11/02/091102fa_fact_grooman?currentPage=all

<http://www.smithsonianmag.com/science-nature/Birth-of-a-Robot.html>

<http://ndea.jpl.nasa.gov/nasa-nde/nde-aa-1/clipping/Popular-Science-Sept-2003.pdf>

<http://www.usnews.com/money/business->

[economy/smallbusiness/articles/2008/01/14/rise-of-the-robots.html](http://www.usnews.com/money/business-economy/smallbusiness/articles/2008/01/14/rise-of-the-robots.html)

<http://www.pcmag.com/article2/0,2817,2036407,00.asp>

<http://www.sciencemag.org/content/vol299/issue5611/r-samples.shtml>

http://iaa.utdallas.edu/news/pop_science.html

Skills

SCULPTURE: Classical figurative sculpture. Highly expressive, realistic human forms including the faces of Einstein, Philip K Dick, Alice, Eva, Zenon and many other forms used in Hanson Robots. For theme parks and resorts, I sculpted both classical-style and cartoon characters up to thirty feet in height and maquettes as small as 4"; Skilled in clay, foam, polymer clay, fiberglass, stone, concrete, silicone, urethane, bronze, and processes of moldmaking and casting.

ROBOTICS/ANIMATRONICS: Developing complete humanlike robots, including faces and walking robot bodies, transitioning this research into mass-produced product in the factory environments in China and Texas. For my humanoid robots, I co-designed numerous animation control systems, with saccade and other motion control architectures, integrated with custom narrative dialogue systems designs, and co-

developed natural language reasoning and statistical narrative assembly using LSI, semantic vectors and other techniques; in collaboration with Dr.s Kino Coursey, Doug Miles, Andrew Olney, Javier Movellan, Stu Baurmann and others. To improve expressivity and applicability of humanlike robots, I invented the patented nanotech of “structured porosity elastomer manufacturing” (SPEM) silicone skin that requires less than 1/20th the force of materials used in animatronics. As an undergrad, I programmed robots in the Foxboro AI lab at Brown, and developed the “scuttling head” telerobot at RISD. 1999-2001, in Disney Imagineering’s MAPO Animatronics shop Technical Development, I designed electronics and mechanical systems, machined robot parts, coded C, C++, and assembly for microcontrollers. For my PhD research U.T.Dallas, I developed a social robots as engineering, figurative sculpture, and cognitive science research, successfully transitioning this work into product through entrepreneurship.

EXECUTIVE LEADERSHIP, I founded and managed two noted startups—Hanson Robotics Incorporated (founded 2003) and Hanson RoboKind LLC (founded 2011), raising over \$6M in investment, \$1.5M in grant money, and \$3M in preliminary sales. These companies are now completing their first mass-product releases, and project significant revenues. I served as CEO, manager, CTO, and negotiated numerous contracts, recruited talent, and navigated the complex legal landscape of investments, technology transfer, patents, partnerships, and cooperative research agreements. In the process, I have been mentored by renowned business leaders

MATH/SCIENCE/TECH I did graduate coursework in cognitive science from UTD and UCSD, building upon my undergrad courses in math (Calculus, Calc-based Linear Algebra), electricity and magnetism, programming, holography, and learning basic electronics and material science outside school. I also learned by practice building engineering projects, several of which won national and international awards. I use many STEM disciplines within my robotics projects, and often collaborate with scientists around the world, as can be seen in my publications in Science, IEEE Spectrum, SPIE, AAI, and Cognitive Science, in the areas of materials science, nanotech, cognitive science, robotics, mechanical engineering, and intelligent software.

COMPUTER Programming: C++, XML, Assembly (with PIC microcontrollers), html, A.I. algorithms and interaction designs.

COMPUTER Applications: Proficient in a wide array of applications, including Maya, PhotoShop, Director, Illustrator, Avid, Matlab, Excel.

FILM/ VIDEO BFA in film/video/animation from RISD; wrote, produced, directed, shot, edited works up to 13 minutes in length. Freelance video work done for CNN and MTV. Designed my own 3D video camera and shot 3D video.

OTHER ARTS Illustration, painting, figure drawing, conceptual art, performance art, science fiction writing, screenwriting, poetry, jazz guitar, punk rock and experimental music composition. Guitar composer, lead guitarist for March Arc 1989-1991, founder of the “Epileptic Neurosurgeons” punk rock band, with John Freeman, Stephen Crye, and Eli Jones, 1986.

WRITING Published science writer, fiction writer, & poet.

Employment

HANSON ROBOTICS LTD, 2013-Present. Founder and Chief Technology Officer. Based in Hong Kong, this new company strives to bridge the worlds of research, design, manufacturing and distribution, with extremely humanlike robot products, addressing needs in medical, entertainment and retail markets.

HANSON ROBOTICS INC, 2005- 2013.. Founder, CEO, Chief Scientist. Researching and manufacturing human-like robots and constituent technologies.

UNIVERSITY OF TEXAS AT ARLINGTON, 2011-2013. Adjunct Professor of Computer Science and Engineering Teaching and advising graduate students.

HANSON ROBOKIND LLC, February 2011- 2012. Founder, CTO, Manager. This spinoff of Hanson Robotics is dedicated to releasing small androids (67cm and smaller) called RoboKind, as consumer product, educational platforms and autism treatment. Successful set up mass manufacturing and released beta-product,

UNIVERSITY OF NORTH TEXAS, 2010. Adjunct Professor in Fine Arts, New Media:Kinetic/Interactive Sculpture.

UNIVERSITY OF TEXAS AT DALLAS, 2010. Instructor of Independent Study in Interactive Sculpture.

NATIONAL SCIENCE FOUNDATION, 2009-2010, review panelist and PIRE committee panelist, reviewing scientific research proposals.

HUMAN EMULATION ROBOTICS LLC, 2003-2005. Founded and managed this robotics startup, raising seed financing and winning accolades and awards. Transitioned this company into Hanson Robotics Inc in March 2005.

PAUL MCCARTHY, MCCARTHY STUDIOS June 2002- June 2003. Sculptor, Artist's Assistant, Robotics Designer.

ART CENTER COLLEGE OF DESIGN IN PASADENA FALL SEMESTER, 2002 Studio Instructor in Graduate Industrial Design.

JET PROPULSION LABORATORY Spring 2002. Robotics Development Contract Building a robot face as test platform for ElectroActive Polymer Actuators for the Nondestructive Evaluations and Advanced Actuator under the guidance of Senior Scientist Yoseph Bar Cohen. [.http://ndeaa.jpl.nasa.gov/nasa-nde/lommas/eap/EAPweb.htm](http://ndeaa.jpl.nasa.gov/nasa-nde/lommas/eap/EAPweb.htm)

ERIC SWENSON artist, August 2001- February 2002. Artist's Assistant

WALT DISNEY IMAGINEERING, 1998 – 2001 (contracting through TAC), and 1996-1997 (sub-contracted through Kern Sculpture Company). Until 1999, I worked for Imagineering as a sculptor, and from 1999-2001 I worked in robotics development through Technical Development in Imagineering's Mapo division. As a sculptor, I generated dozens of characters and props for parks including Tokyo Disney Sea, Disney's California Adventure, Tokyo Disneyland and Walt Disney World. In 1999 I transitioned into a position as a Robotics/Animatronics Technician in Mapo, where I wrote research papers and led several small research projects including the design and construction of an autonomous, walking robotic character, which would track humans and give chase. My duties included lead mechanical and electronics design, AI programming in C, machining, and visual design. I also headed an investigation into Electro-Active Polymer (EAP) actuators (artificial muscles), building functioning prototypes and writing a paper/book chapter published by SPIE.

UNIVERSAL STUDIOS, VIA ADIRONDACK SCENIC INC May - September, 1998.
Sculptor, producing large mythical creatures for Universal Studios' "Islands of Adventure" theme park.

DAVID HANSON, LLC, 1993 – 1998. Freelance Artist and Designer. Contracted for numerous clients including Atlantis resort, Bahamas. Duties included project ideation, design, sculpture, negotiation with clients, and maintenance of a workshop with full-time employees, maquette sculpting, and full-scale sculpture production. My designs included 26' tall marlins, seahorses, sea turtles, nautiluses, numerous mythical creatures, etc.

KERN SCULPTURE COMPANY, 1996 – 1998. Lead Sculptor, Assistant Project Manager, Interim Head of Sculpture Dept. As a sculptor, I produced over 100 large works for clients including Disney, Universal Studios, Mardi Gras, and many casinos and resorts. As Department Head, I managed a crew of four, maintained the shop, dealt with clients and managed projects

BROWN UNIVERSITY Physics Department, 1995 Optical engineering technical assistant, helping Dr. Heinrich Gerritsen and Mary Lou Jepsen to build a novel space shuttle lighting system, which won a NASA Space Act Monetary Award for 1996.

CNN, 1993 and MTV, 1995. Freelance Videographer, Electronic News Gathering (ENG).

TEXAS GRECO ROMAN FESTIVAL , Acting job as a roman legionnaire, 1985.

SCARBOROUGH FAIRE, Acting job as a page to King Henry VIII, 1985.

CRATE AND BARREL, illustrations for weekly newsletters, 1983-1984.

Painting sold to author Piers Anthony, 1983.

Modelling and acting as a child age 3-9.

Hobbies

Portraits of friends and family, painting, drawing, sculpting.

Poetry, fiction writing, screenwriting.

Travel, hiking, family time.

Green belt in Jiu Jitsu.

Punk rock and jazz guitar.