

Curriculum Vitae for David O. Johnson

Professional Experience	
Academic Positions – Teaching (7+ years)	
University of Kansas Lawrence, KS USA	<p>Associate Teaching Professor in Electrical Engineering and Computer Science, October 2019 – present</p> <p>Lecturer in Electrical Engineering and Computer Science, August 2016 – October 2019</p> <p><i>Taught undergraduate courses in Introduction to Digital Logic Design, Discrete Structures, Circuits, Electronics & Instrumentation, and Computer Science Design (senior Capstone class).</i></p> <p><i>Taught Computer Science Summer Camp for high school students (2017-2019)</i></p> <p><i>Advised individual students from Capstone class on what career paths a student might pursue including whether to seek a graduate degree or work in industry after graduation.</i></p> <p><i>Advised GTAs in all my courses on whether to pursue careers in academia or industry.</i></p> <p><i>Advised students in freshman and sophomore classes explaining what courses a student might take to follow a career path similar to mine.</i></p>
University of Missouri Kansas City, MO USA	<p>Adjunct Lecturer in Computer Science and Electrical Engineering, August 2013 – December 2013</p> <p><i>Taught undergraduate courses in Problem Solving & Programming II and Ethics & Professionalism.</i></p> <p><i>Advised one student “who wanted to be just like me when he grew up” explaining what courses he should take to follow a career path similar to mine.</i></p>
University of Missouri Kansas City, MO USA	<p>Adjunct Lecturer in Computer Science and Electrical Engineering, June 2009 – May 2012</p> <p><i>Developed and taught graduate courses in Humanoid Robot Software Design and Formal Software Specification. Guided graduate students in Directed Reading courses. Taught undergraduate course in Circuit Theory. Prepared assessment of Formal Software Specification course for accreditation by the North Central Association of Colleges and Schools Higher Learning Commission.</i></p> <p><i>Advised individual students on an ad hoc basis on what career paths a student might pursue.</i></p> <p><i>Advised graduate students on whether to pursue careers in academia or industry.</i></p>
University of Missouri Kansas City, MO USA	<p>Adjunct Lecturer in Computer Science January 1985 – May 1985</p> <p><i>Developed and taught an electrical engineering overview course to computer science undergraduate and graduate students entering the newly created Telecom Engineering program.</i></p>
Academic Positions – Research (3+ years)	
Northern Arizona University Flagstaff, AZ USA	<p>Independent Contractor, June 2017 – August 2017</p> <p><i>Developed and tested speech processing software for the Applied Linguistics department that measures the accent of a non-native English speaker.</i></p> <p>Post Doctoral Scholar, February 2014 – June 2016</p> <p><i>Developed and tested speech processing software for the Applied Linguistics department that measures the accent of a non-native English speaker. Assisted mentoring professor with writing NSF and NIH grant proposals plus grant proposals to smaller organizations. Developed and mentored Capstone machine learning projects for computer science undergraduates.</i></p>
Eindhoven Univ. of Technology Eindhoven Netherlands	<p>Post Doctoral Researcher, June 2012 – January 2013</p> <p><i>Developed and tested Human Robot Interaction software for the Aldebaran Nao robot as part of the EU funded KSERA project, which investigated the integration of smart home technology and socially assistive robots to support elderly users in a domestic environment. Assisted mentoring professor with his classes and tutored graduate and undergraduate student projects.</i></p>

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Industry Positions (30+ years)	
Sprint Overland Park, KS USA	<p>Business Analyst, December 2002 – March 2007 <i>Negotiated and administered contracts for telecommunications services used by Sprint internally.</i></p> <p>Telecom Manager, March 1989 – December 2002 <i>Managed a variety of departments with up to 50 professionals located nation-wide who designed and installed both voice and data equipment used to support Sprint's internal communications networks.</i></p>
Digital Equipment Corporation Kansas City, MO USA	<p>Software Consultant, August 1987 – March 1989 <i>Supported sales team by providing technical consulting to customers and sales representatives. Customers included Marion Labs, Allied Signal, and Hallmark Cards.</i></p>
Adacom Corporation Overland Park, KS USA	<p>R & D Manager – US, August 1986 – August 1987 <i>Established R&D center in the US for this start-up company. Coordinated R&D activities with those of Israeli subsidiary. "Working" manager personally responsible for the development of several PC networking and other communication related products, including X.25 device driver.</i></p>
Uninet Lenexa, KS USA	<p>Software Engineering Manager, February 1982 – August 1986 <i>Managed a variety of departments with up to 36 software engineers located in Kansas City and San Jose, who developed and maintained all the software for Uninet's packet switched data communications network product line.</i></p> <p>Software Engineer, February 1980 – February 1982 <i>Designed, coded, and tested the software for Uninet's first generation X.25 packet switch products. Also worked with outside vendor to develop Uninet's first generation async PAD product.</i></p>
Bell Labs Holmdel, NJ USA	<p>Member Technical Staff, August 1976 – February 1980 <i>Participated in the development of the international X-series data communication standards as a United States representative to the United Nations chartered CCITT Study Group VII in Geneva Switzerland. Also US member of International Standards Organization (ISO) where OSI data communications protocol model was developed. System engineer for AT&T's first packet switched network.</i></p>
Education	
University of Kansas Lawrence, KS, USA	<p>PhD Computer Science, May 2009 Dissertation: <i>Human Robot Interaction Through Semantic Integration of Multiple Modalities, Dialog Management, and Contexts</i> Advisor: Arvin Agah</p>
Columbia University New York City, NY, USA	<p>Graduate studies in packet switching, 4.0/4.0, Spring 1977</p>
Kansas State University Manhattan, KS, USA	<p>MS Electrical Engineering, 3.3/4.0, October 1976 Emphasis: Computer Design</p>
Kansas State University Manhattan, KS, USA	<p>BS Electrical Engineering, 3.7/4.0, May 1975 Graduated Magna Cum Laude</p>
Honors	<p>Phi Kappa Phi Tau Beta Pi Eta Kappa Nu</p>
Publications	<p>Johnson, D. O., McVey, M. A., & Melgares, C. P. (2019). The Impact of Course Transformation on Student Learning and Success in Fundamental Electrical Engineering/Computer Science Courses. In <i>Proceedings of ASEE Conference, Tampa, FL, USA, June 2019.</i></p> <p>Johnson, D. O., & Cuijpers, R. H. (2019). Investigating the effect of a humanoid robot's head position on imitating human emotions. <i>International Journal of Social Robotics</i>, 11(1), 65-74.</p> <p>Kang, O., & Johnson, D. (2018). The roles of suprasegmental features in predicting English oral proficiency with an automated system. <i>Language Assessment Quarterly</i>, 15(2), 150-168.</p> <p>D. O. Johnson and O. Kang (2017). Comparison of Algorithms to Divide Noisy Phone Sequences into Syllables for Automatic Unconstrained English Speaking Proficiency Scoring. <i>Artificial Intelligence Review</i>, 1-24. DOI 10.1007/s10462-017-9594-y</p> <p>D. O. Johnson and O. Kang (2017). Measures of intelligibility in different varieties</p>

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- of English: Human vs. machine. In M. O'Brien & J. Levis (Eds). In *Proceedings of the 8th Pronunciation in Second Language Learning and Teaching Conference*, ISSN 2380-9566, Calgary, AB, August 2016 (pp. 58-72). Ames, IA: Iowa State University.
- D. O. Johnson, O. Kang, and R. Ghanem (2016). Improved Automatic English Proficiency Rating of Unconstrained Speech with Multiple Corpora. *International Journal of Speech Technology*, 19(4), 755-768. DOI: 10.1007/s10772-016-9366-0
- D. O. Johnson, R. Ghanem and O. Kang (2016). Language Proficiency Ratings: Human vs. Machine. In *Proceedings of the 7th Pronunciation in Second Language Learning and Teaching Conference*, 119-129.
- D. O. Johnson and O. Kang (2016). Automatic Detection of Brazil's Prosodic Tone Unit. In *Proceedings of Speech Prosody 8, Boston University, USA, May 31 - June 3, 2016*.
- D. O. Johnson, R. H. Cuijpers, K. Pollmann, and A. A. J. van de Ven (2016). Exploring the Entertainment Value of Playing Games with a Humanoid Robot. *International Journal of Social Robotics*, 8(2), 247-269. DOI:10.1007/s12369-015-0331-x.
- O. Kang and D. O. Johnson (2015). Comparison of Inter-rater Reliability of Human and Computer Prosodic Annotation Using Brazil's Prosody Model. *English Linguistics Research*. 4(4), 58-68, DOI:10.5430/elr.v4n4p58.
- D. O. Johnson and O. Kang (2015). Automatic Prosodic Tone Choice Classification of Brazil's Intonation Model. *International Journal of Speech Technology*. DOI: 10.1007/s10772-015-9327-z.
- D. O. Johnson and O. Kang, (2015). Automatic prominent syllable detection with machine learning classifiers. *International Journal of Speech Technology*, 18(4), 583-592.
- E. Torta, F. Werner, D. O. Johnson, J. F. Juola, R. H. Cuijpers, M. Bazzani, J. Oberzaucher, J. Lemberger, H. Lewy, and J. Bregman (2014). Evaluation of a small socially-assistive humanoid robot in intelligent homes for the care of the elderly. *Journal of Intelligent & Robotic Systems*, 76(1), 57-71.
- D. O. Johnson, R. H. Cuijpers, J. F. Juola, E. Torta, M. Simonov, A. Frisiello, M. Bazzani, W. Yan, C. Weber, S. Wermter, N. Meins, J. Oberzaucher, P. Panek, G. Edelmayer, P. Mayer, and C. Beck (2013). Socially Assistive Robots: A comprehensive approach to extending independent living, *International Journal of Social Robotics*, November 2013, 6(2): 195-211, DOI: 10.1007/s12369-013-0217-8.
- D. O. Johnson (2013). Overview of Artificial Intelligence. In A. Agah, (Ed.). *Medical Applications of Artificial Intelligence*, United States: CRC Press.
- D. O. Johnson, R. H. Cuijpers, and D. van der Pol (2013). Imitating Human Emotions with Artificial Facial Expressions, *International Journal of Social Robotics*, November 2013, 5(4):503-513, DOI: 10.1007/s12369-013-0211-1.
- D. O. Johnson and R. H. Cuijpers (2013). Predicting Gaze Direction from Head Pose Yaw and Pitch, In *Proceedings of the IPCV'13 - The 2013 International Conference on Image Processing, Computer Vision, & Pattern Recognition, July 22-25, 2013, Las Vegas, NV, USA*, (2) 662-667.
- D. O. Johnson and A. Agah (2013). Learning Macro Actions from Instructional Videos Through Integration of Multiple Modalities. *International Journal of Social Robotics*. January 2013, 5(1):53-73, DOI: 10.1007/s12369-012-0167-6.
- D. O. Johnson and A. Agah (2011). Recognition of Marker-less Human Actions in Videos Using Hidden Markov Models. In *Proceedings of the ICAI'11 - The 2011 International Conference on Artificial Intelligence, July 18-21, 2011, Las Vegas, NV, USA*, (2) 95-100.
- D. O. Johnson and A. Agah (2011). An Automatic Image Registration Algorithm for Tracking Moving Objects in Low-Resolution Videos. In *Proceedings of the ICAI'11 - The 2011 International Conference on Artificial Intelligence, July 18-21, 2011, Las Vegas, NV, USA*, (2) 89-94.
- D. O. Johnson and A. Agah (2011). A Novel Efficient Algorithm for Locating and

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	<p>Tracking Object Parts in Low Resolution Videos. <i>Journal of Intelligent Systems</i>, April 2011, 20(1):79-100, DOI: 10.1515/JISYS.2011.006.</p> <p>D. O. Johnson and A. Agah (2009). Human Robot Interaction Through Semantic Integration of Multiple Modalities, Dialog Management, and Contexts. <i>International Journal of Social Robotics</i>. 1:283-305, DOI: 10.1007/s12369-009-0028-0.</p>
Patents	<p>Kang, O., & Johnson, D. O. (2018). U.S. Patent No. 9,947,322. Washington, DC: U.S. Patent and Trademark Office. Systems and Methods for Automated Evaluation of Human Speech.</p>
Professional Activities	<p>Reviewed numerous papers submitted to various conferences: IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2007, 2016), 4th World Conference of the International Association for Statistical Computing (IASC 2008), IEEE Transactions on Systems, Man, and Cybernetics--Part A: Systems and Humans (SMCA 2009), 5-9th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2010 - 2014), and International Conference on Robot Intelligence Technology and Applications (ICRITA 2015).</p> <p>Reviewed numerous papers submitted to various journals: International Journal of Social Robotics, Intelligent Service Robots, Journal of Behavioral Robotics, Robotics and Autonomous Systems, IEEE Transactions on Image Processing, and IEEE Transactions on Human-Machine Systems</p> <p>Program committee member for the International Conference on Social Robotics (ICSR 2014).</p>