Dr. David J. Coe

University of Alabama in Huntsville
Electrical and Computer Engineering
(256) 824-3583
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Education

Ph D, Georgia Institute of Technology, 2002.
    Major: Electrical Engineering
    Dissertation Title: Fabrication Technology Approaches to Micromachined Synthetic Jets

MS, Georgia Institute of Technology, 1991.
    Major: Electrical Engineering

BS, Duke University, 1989.
    Major: Computer Science
    Supporting Areas of Emphasis: Mathematics

Licensures and Certifications

Amateur Radio License, Federal Communications Commission. (February 23, 2010 - February 22, 2020).

Professional Memberships

Institute of Electrical and Electronic Engineers. (1988 - Present).

Development Activities Attended

Continuing Education Program, "Certified Computer Examinier Training," Huntsville, Alabama, USA. (October 5, 2015 - October 9, 2015).

Conference Attendance, "2015 Cybersecurity Summit," University of Alabama in Huntsville / CyberHuntsville, Huntsville, Alabama, USA. (September 24, 2015).

Conference Attendance, "DEF CON 23," Las Vegas, NV, USA. (August 6, 2015 - August 9, 2015).

Conference Attendance, "Black Hat USA 2015," Las Vegas, Nevada, USA. (August 5, 2015 - August 6, 2015).

Continuing Education Program, "Advanced Infrastructure Hacking," Black Hat USA 2015, Las Vegas, Nevada, USA. (August 1, 2015 - August 4, 2015).

Conference Attendance, "WORLDCOMP '15," Las Vegas, Nevada, USA. (July 27, 2015 - July 30, 2015).

Conference Attendance, "7th Annual Southeast Cyber Security Summit," North Alabama ISSA and Cyber Huntsville, Huntsville, Alabama, USA. (June 3, 2015 - June 4, 2015).

Workshop, "Diversity Training," University of Alabama in Huntsville. (April 22, 2015).

Conference Attendance, "DEF CON 22," Las Vegas, NV, USA. (August 7, 2014 - August 10, 2014).

Continuing Education Program, "Export Control," University of Alabama in Huntsville. (August 7, 2014).

Conference Attendance, "Black Hat USA 2014," Las Vegas, Nevada, USA. (August 6, 2014 - August 7, 2014).

Continuing Education Program, "Attacking, Defending and Building SCADA Systems," Black Hat USA 2014, Las Vegas, Nevada, USA. (August 4, 2014 - August 5, 2014).

Continuing Education Program, "Radio Exploitation," Black Hat USA 2014, Las Vegas, Nevada, USA. (August 2, 2014 - August 3, 2014).

Conference Attendance, "WORLDCOMP '14," Las Vegas, Nevada, USA. (July 21, 2014 - July 24, 2014).

Continuing Education Program, "RCR Training Session - Responsible Conduct of Research Essentials," University of Alabama in Huntsville. (October 18, 2013).

Conference Attendance, "WORLDCOMP '13," Las Vegas, Nevada, USA. (July 22, 2013 - July 25, 2013).

Continuing Education Program, "RCR Training Session - U of MT Interpersonal Resp," University of Alabama in Huntsville. (February 8, 2013).

Continuing Education Program, "RCR Training Session - U of MT Professional Resp," University of Alabama in Huntsville. (February 8, 2013).

Continuing Education Program, "RCR Training Session - Conflict of Interest//Human Subjects," University of Alabama in Huntsville. (October 26, 2012).

Continuing Education Program, "RCR Training Session - Research Misconduct," University of Alabama in Huntsville. (October 25, 2012).

Continuing Education Program, "RCR Training Session - RCR Introduction," University of Alabama in Huntsville. (September 21, 2012).

Conference Attendance, "WORLDCOMP '12," Las Vegas, Nevada, USA. (July 16, 2012 - July 19, 2012).

Conference Attendance, "WORLDCOMP '11," Las Vegas, Nevada, USA. (July 18, 2011 - July 21, 2011).

Continuing Education Program, "RCR Training Session - Authorship," University of Alabama in Huntsville. (January 20, 2011).

Continuing Education Program, "RCR Training Session - Research Misconduct," University of Alabama in Huntsville. (January 20, 2011).

Conference Attendance, "Safe and Secure Systems and Software Symposium (S5)," Beavercreek, OH, USA. (June 15, 2010 - June 17, 2010).

Continuing Education Program, "Team Software Process Launch Coach Training," Carnegie Mellon Software Engineering Institute, Pittsburgh, PA, USA. (June 2003).

Continuing Education Program, "Personnel Software Process for Engineers I," Carnegie Mellon Software Engineering Institute, Pittsburgh, PA, USA. (May 2003).

Continuing Education Program, "Personnel Software Process for Engineers II," Carnegie Mellon Software Engineering Institute, Pittsburgh, PA, USA. (May 2003).

TEACHING

Teaching Experience

University of Alabama in Huntsville
CPE 112, INTRODUCTION TO COMPUTER PROGRAMMING FOR ENGINEERS
CPE 212, FUNDAMENTALS SOFTWARE ENGRG
CPE 353, SOFTWARE DESIGN & ENGINEERING
CPE 453, SENIOR SOFTWARE STUDIO
CPE 656, Software Engineering Studio I
CPE 695, PROJECTS IN COMPUTER ENGRG

Directed Student Learning

Dissertation Committee Member, "Optimal Resource Allocation for Investigating Digital Crime and Intrusion Detection Alarms," Electrical and Computer Engineering. (June 5, 2014).
Advised: Ezhil Kalaimannan

Master's Thesis Committee Chair, "Optimal Performance Counter Events for Detecting Android Malware," Electrical and Computer Engineering. (November 2013).
Advised: Hunter Stinson

Master's Thesis Committee Chair, "An Extended Duration Hybrid Powered Hexcopter," Electrical and Computer Engineering. (June 2012).
Advised: Jason Winningham

Master's Thesis Committee Chair, "Design of a Wireless Chemical Sensor Using a Flexural Plate Wave Resonator," Electrical and Computer Engineering. (October 2007).
Advised: James Schaeffel

Master's Thesis Committee Chair, "Fabrication of a Flexible, Self-Healing Smart Skin," Electrical and Computer Engineering. (May 2006).
Advised: Johnathan Carlson

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles

Haley, E. R., Collins, G. B., Coe, D. J. (2008). The wonderful world of wiki benefits students and instructors. *IEEE Potentials, 27*(2), 21-26.

Coe, D. J. (2008). A Review of Boundary Value Analysis Techniques. *CrossTalk: The Journal of Defense Software Engineering, 21*(4), 19-22.

Coe, D. J. (2008). Improving Consistency of Use Case Points Estimates. *CrossTalk: The Journal of Defense Software Engineering, 21*(3), 8-12.

English, J. M., Coe, D. J., Gaede, R. K., Hyde, D. W., Kulick, J. H. (2007). MEMS-Assisted Cryptography for CPI Protection. *IEEE Security & Privacy, 5*(4), 14-21.

Coe, D. J., English, J. M., Lindquist, R. G., Kaiser, T. J. (2006). Model of a MEMS Sensor Using a Common Gate MOSFET Differential Amplifier. *Journal of Physics D: Applied Physics, 39*(20), 4353.

Carlson, J. A., English, J. M., Coe, D. J. (2006). A flexible, self-healing sensor skin. *Smart Materials and Structures, 15*(5), N129 - N135.

Coe, D. J. (2006). Design of a MEMS Accelerometer Using an Integrated Common Gate Differential MOSFET Amplifies. *Sensor Letters, 4*(3), 215-221.

Coe, D. J. (2006). Pneumatically Actuated Micromachines Synthetic Jet Modulators. *Sensors and Actuators A: Physical, 132*(2), 689-700.

Newborn, C. H., English, J. M., Coe, D. J. (2006). LTCC Fabrication for a Leaf Spring Vertical Actuator. *International Journal of Applied Ceramic Technology, 3*(1), 61-67.

Conference Proceedings

Johnston, R., Kim, S.-i., Coe, D. J., Etzkorn, L. H., Kulick, J. H., Milenkovic, A. (2016). Xen Network Flow Analysis for Intrusion Detection. 11th Cyber and Information Security Research Conference, *ACM International Conference Proceedings Series*. Association of Computing Machinery. To appear on www.acm.org

Winningham, J. D., Coe, D. J., Kulick, J. H. (2015). *Agile Systems Integration Process*. Proceedings of The 2015 World Congress in Computer Science, Computer Engineering, and Applied Computing. http://worldcomp-proceedings.com/proc/p2015/FECS_contents.html

Coe, D. J., Bowman, R. D., Winningham, J. (2014). *Automated Feedback for Personalized Learning*. Proceedings of The 2014 World Congress in Computer Science, Computer Engineering, and Applied Computing. worldcomp-proceedings.com/proc/p2014/FEC2898.pdf

Coe, D. J., Kulick, J. H. (2014). *Positive Train Control: Concepts, Implementations, and Challenges* (pp. 6). Proceedings of The 2014 World Congress in Computer Science, Computer Engineering, and Applied Computing. worldcomp-proceedings.com/proc/p2014/SER2900.pdf

Schiavone, S. M., Chambers, S., Patel, S. J., Hanback, L. A., Coe, D. J., Winningham, J., Wells Jr, B. E., Kulick, J. H. (2014). *UAH OnTrack: Precision Navigation System for Research on The Software Safety Issues of Positive Train Control* (pp. 7). Proceedings of The 2014 World Congress in Computer Science, Computer Engineering, and Applied Computing. worldcomp-proceedings.com/proc/p2014/SER2484.pdf

Brown, R. L., Helton, H. L., Williams, A. C., Shrove, M. T., Milosevic, M., Jovanov, E., Coe, D. J., Kulick, J. H. (2013). *Android Control Application for NAO Humanoid Robot* (pp. 7). Proceedings of The 2013 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2013/FEC.html

Cleveland, T., Coe, D. J., Kulick, J. H. (2013). *Video Processing for Motion Tracking of Safety Critical Systems* (pp. 6). Proceedings of The 2013 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2013/SER.html

Coe, D. J., Kulick, J. H. (2013). *A Model-Based Agile Process for DO-178C Certification* (pp. 6). Proceedings of The 2013 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2013/SER.html

Haley, E. R., Coe, D. J., Kulick, J. H. (2012). *3-D Visualization of Simulink Physics Models Using Unreal Engine* (pp. 6). Proceedings of The 2012 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2012/MSV.html

Lindsey, M. C., Coe, D. J., Kulick, J. H., Etzkorn, L. H., Fu, Y. (2012). *Design of Safety Critical Survivable Systems Using Autonomic and Semantic Web Methodologies* (pp. 7). Proceedings of The 2012 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2012/SER.html

Coe, D. J., Hogue, J. S., Kulick, J. H. (2011). *Software Safety Engineering Education* (pp. 7). Proceedings of The 2011 World Congress in Computer Science, Computer Engineering, and Applied Computing. world-comp.org/p2011/SER4081.pdf

Presentations Given

Johnston, R., Kim, S.-i., Coe, D. J., Etzkorn, L. H., Kulick, J. H., Milenkovic, A. (2016). 11th Cyber and Information Security Research Conference, "Xen Network Flow Analysis for Intrusion Detection". Oak Ridge, Tennessee, April 5-7, 2016.

Winningham, J. D. (Author), Coe, D. J. (Author & Presenter), Kulick, J. H. (Author), 2015 International Conference on Frontiers in Education: Computer Science and Computer Engineering, "Agile Systems Integration Process," World Academy of Science, Las Vegas. (July 30, 2015).

Coe, D. J. (Author & Presenter), Bowman, R. D. (Author), Winningham, J. (Author), 2014 International Conference on Frontiers in Education: Computer Science and Computer Engineering, "Automated Feedback for Personalized Learning," World Academy of Science, Las Vegas. (July 23, 2014).

Schiavone, S. M. (Author), Chambers, S. (Author), Patel, S. J. (Author), Hanback, L. A. (Author), Coe, D. J. (Author & Presenter), Winningham, J. (Author), Wells Jr, B. E. (Author), Kulick, J. H. (Author), 2014 International Conference on Software Engineering Research and Practice, "UAH OnTrack: Precision Navigation System for Research on The Software Safety Issues of Positive Train Control," World Academy of Science, Las Vegas. (July 23, 2014).

Coe, D. J. (Author & Presenter), Kulick, J. H. (Author), 2014 International Conference on Software Engineering Research and Practice, "Positive Train Control: Concepts, Implementations, and Challenges," World Academy of Science, Las Vegas. (July 21, 2014).

Coe, D. J. (Author & Presenter), Kulick, J. H. (Author), 2013 International Conference on Software Engineering Research and Practice (SERP'13), "A Model-Based Agile Process for DO-178C Certification," World Academy of Science, Las Vegas, Nevada. (July 25, 2013).

Cleveland, T. (Author), Coe, D. J. (Author & Presenter), Kulick, J. H. (Author), 2013 International Conference on Software Engineering Research and Practice (SERP'13), "Video Processing for Motion Tracking of Safety Critical Systems," World Academy of Science, Las Vegas, Nevada. (July 25, 2013).

Brown, R. L. (Author), Helton, H. L. (Author & Presenter), Williams, A. C. (Author), Shrove, M. T. (Author), Milosevic, M. (Author), Jovanov, E. (Author), Coe, D. J. (Author), Kulick, J. H. (Author), 2013 Frontiers in Education: Computer Science and Computer Engineering

(FECS'13), "Android Control Application for NAO Humanoid Robot," World Academy of Science, Las Vegas, Nevada. (July 22, 2013).

Haley, E. R. (Author & Presenter), Coe, D. J. (Author), Kulick, J. H. (Author), 2012 International Conference on Modeling, Simulation and Visualization (MSV'12), "3-D Visualization of Simulink Physics Models Using Unreal Engine," World Academy of Science, Las Vegas, Nevada. (July 18, 2012).

Lindsey, M. C. (Author), Coe, D. J. (Author & Presenter), Kulick, J. H. (Author), Etzkorn, L. H. (Author), 2012 International Conference on Software Engineering Research and Practice (SERP'12), "Design of Safety Critical Survivable Systems Using Autonomic and Semantic Web Methodologies," World Academy of Science, Las Vegas, Nevada. (July 16, 2012).

Coe, D. J. (Author & Presenter), Hogue, J. S. (Author), Kulick, J. H. (Author), 2011 International Conference on Software Engineering Research and Practice (SERP'11), "Software Safety Engineering Education," World Academy of Science, Las Vegas, Nevada. (July 19, 2011).

Awards and Honors

Top 30 Paper in 2006, Journal of Physics D: Applied Physics. (2006).

Coe, D. J., English, J. M., Lindquist, R. G., Kaiser, T. J. (2006). Model of a MEMS Sensor Using a Common Gate MOSFET Differential Amplifier. *Journal of Physics D: Applied Physics, 39*(20), 4353.

SERVICE

Department Service

Committee Member, ECE Reappointment Committee. (February 2016).

Committee Member, ECE Graduate Affairs Committee. (September 2014 - Present).

Committee Member, CPE Program Committee. (August 2002 - Present).

Attendee, Meeting, Discovery Day. (November 21, 2015).

Attendee, Meeting, Discovery Day. (November 7, 2015).

Faculty Advisor, Charger Preview Day. (June 27, 2015).

Attendee, Meeting, Open House. (April 11, 2015).

Committee Member, ECE MSSE Committee. (March 2015).

Committee Member, ECE Reappointment Committee. (March 2015).

Committee Member, EG 101 Committee. (March 2015).

Attendee, Meeting, Open House. (November 22, 2014).

Attendee, Meeting, Open House. (October 4, 2014).

Attendee, Meeting, Open House. (April 5, 2014).

Committee Member, ECE Reappointment Committee. (February 2014).

Attendee, Meeting, Open House. (November 9, 2013).

Attendee, Meeting, Open House. (October 19, 2013).

Attendee, Meeting, Open House. (April 20, 2013).

Attendee, Meeting, Open House. (October 20, 2012).

Attendee, Meeting, Faculty Senate. (2008 - 2010).

College Service

Committee Member, College of Engineering Undergraduate Research Committee. (February 2014).

University Service

Committee Chair, Faculty Senate Undergraduate Curriculum Committee. (2009 - 2010).

Committee Member, Faculty Senate Undergraduate Curriculum Committee. (2008 - 2009).

Professional Service

Reviewer, Journal Article, Sensors and Actuators A: Physical. (February 2015).

Reviewer, Journal Article, Sensors and Actuators A: Physical. (June 2014).

Reviewer, Journal Article, IEEE Security & Privacy. (September 2013).

Reviewer, Journal Article, Sensors and Actuators A: Physical. (March 2013).

Reviewer, Journal Article, Sensors and Actuators A: Physical. (2011).