

Curriculum Vitae

Wutthigrai Boonsuk, Ph.D.

*School of Technology, Eastern Illinois University
600 Lincoln Ave (3134 Klehm Hall), Charleston, IL 61920
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EDUCATION

Ph.D., Industrial and Manufacturing System Engineering, Iowa State University, Ames, IA, 2009
M.S., Human Computer Interaction, Iowa State University, Ames, IA, 2011
M.S., Industrial and Manufacturing System Engineering, Iowa State University, Ames, IA, 2005
B.B.A., Business Administration, Kasetsart University, Thailand, 1996

PROFESSIONAL EXPERIENCE

Associate Professor, Eastern Illinois University, School of Technology, Charleston, IL, 2018 to Present
Teach undergraduate and graduate courses in the Applied Engineering and Technology program and in the Technology graduate program; Maintain an active program of scholarship; Participate in departmental and university committee work, including students advising

Assistant Professor, Eastern Illinois University, School of Technology, Charleston, IL, 2012 to 2018

Instructor, Northern Illinois University, Department of Technology/Department of Industrial & Systems Engineering, DeKalb, IL, 2011 to 2012
Taught industrial, technology and engineering courses

Database Developer, Virtual Reality Applications Center (VRAC), Ames, IA, 2011
Sponsor: U.S. Air Force Office of Scientific Research
Developed computer-based analytical systems for academic research writing

Research Assistant, Iowa State University, Human Computer Interaction, Ames, IA, 2009 to 2011
Sponsor: U.S. Air Force Office of Scientific Research
Studied usability of 360-degree field of view (FOV) for mobile surveillance systems; Implemented multi-touch interface and augmented reality

Web Developer, Department of Natural Resource Ecology and Management, Ames, IA, 2008 to 2009
Sponsor: Iowa Department of Natural Resources, Living Roadway Trust Fund, and Iowa Chapter of Safari Club International
Developed website for citizen-based wildlife monitoring program that utilized Geographic Information System (GIS) technology

Programmer, Virtual Reality Applications Center (VRAC), Ames, IA, 2008
Sponsor: U.S. Air Force Office of Scientific Research
Developed real-time simulation interface for maneuvering military unmanned aerial vehicles (UAVs)

Research Assistant, Iowa State University, Department of Industrial and Manufacturing Systems Engineering, Ames, IA, 2005 to 2008
Sponsor: Deere & Company

Developed algorithms for automatically generated fixtures suitable for rapid machining process;
Implemented algorithms in commercial CAD/CAM software for an automated machining system

Sponsor: U.S. Department of Defense, Benet Laboratories

Developed computer program to detect and analyze anomalies on manufacturing military components, including performing statistical analysis

INDUSTRY CAREER

Marketing Research Assistant, Kongsak X-ray Medical Industry Co., Ltd., Bangkok, Thailand, 1996 to 2001

Developed product and quality plans; Provided marketing and strategic plans; Managed distribution networks and inventory for x-ray apparatuses and medical supplies

TRAINING CERTIFICATIONS

The International Society for Optics and Photonics (SPIE) Certificate, Understanding and Interpreting Images, The International Society of Optics and Photonic (SPIE) – the Society for Imaging Science and Technology (IS&T) Electronic Imaging: Visualization and Data Analysis, 2015

FANUC Robotics Certificate, Handling Tool Operation and Programming, FANUC America Corporation, 2014

SPIE Certificate, 3D Imaging, SPIE-IS&T Electronic Imaging: Visualization and Data Analysis, 2014

Graduate Certificate in Geographic Information System (GIS), Iowa State University, 2011

PEER REVIEWED PUBLICATIONS (+ with student)

Boonsuk, W. (2019). Design of Teleoperated Mobile Robotic System with Virtual Reality Interface. *Technology Interface International Journal (TIJ)*, In Press.

Hugo, N., Israr, T., Boonsuk, W., Miloud, Y., Cloward, J., & Liu, P. P. (2019). Usability Study of Voice-Activated Smart Home Technology. *Proceeding of International Conference on Remote Engineering and Virtual Instrumentation (REV)*, In Press.

+Boonsuk, W., & Przygoda, N. (2017). Pattern Learning for Economical Prosthetic Hands using Leap Motion Sensors. *The International Journal of Engineering Research and Innovation*, 9(2), 35-40.

+Patel, A., Naseri, S., & Boonsuk, W. (2017). Performance Analysis of ToF Ranging Sensor. *Proceeding of the 2017 Associated of Technology, Management, and Applied Engineering (ATMAE) Conference*, Cincinnati, OH.

Boonsuk, W. (2016). Investigating the Effects of Stereo Camera Baseline on the Accuracy of 3D Projection for Industrial Robotic Applications. *The International Journal of Engineering Research and Innovation*, 8(2), 94-98.

Boonsuk, W. (2016). Investigating Effects of Stereo Baseline Distance on Accuracy of 3D Projection for Industrial Robotic Applications. *Proceedings of the 2016 IAJC-ISAM International Conference*, Orlando, FL.

- Boonsuk, W. (2015). Usability of stereoscopic view in teleoperation. *Proceeding of the International Society of Optics and Photonic (SPIE) – the Society for Imaging Science and Technology (IS&T) Electronic Imaging: Stereoscopic Displays and Applications XXVI*, 93911G. doi:10.1117/12.2083383.
- Boonsuk, W., & Harding, C. (2014). Possibility space for GIS suitability analysis. *Proceeding of SPIE-IS&T Electronic Imaging: Visualization and Data Analysis*, 9017R, doi:10.1117/12.2040165.
- West, R., Bailey, K., Tiernan, B., Boonsuk, W., & Gilbert S. (2012). The Temporal Dynamics of Medial and Lateral Frontal Neural Activity Related to Proactive Cognitive Control. *Neuropsychologia*, 50(14), 3450-3460, doi: 10.1016/j.neuropsychologia.2012.10.011.
- Boonsuk, W., Gilbert, S., & Kelly, J. W. (2012). The Impact of Three Interfaces for 360-Degree Video on Spatial Cognition. *Proceedings of the 2012 Annual Conference on Human Factors in Computing Systems*, Austin, TX.
- Gilbert, S., Boonsuk, W., & Kelly, J. W. (2012). Virtual displays for 360-degree video. *Proceedings of 2012 Imaging Science & Technology (IS&T) and SPIE Electronic Imaging*. 82911L.
- Boonsuk, W., & Frank, M. C. (2009). Automated fixture design for a rapid machining process. *Rapid Prototyping Journal*, 15(2), 111-125, doi: 10.1108/13552540910943414.
- Boonsuk, W., Busch, S. V., Peters, F., & Jackman, J. (2007). Surface Characterization Mapping and Analysis. *Proceedings of the Steel Founders Society of America: Technical and Operating Conference*. Chicago, IL.

TECHNICAL PRESENTATIONS (+ with student)

- Boonsuk, W., Liu, P. P. (2019). Usability of Voice-Activated Smart Home Device Technology for Older Adults. Presented at the International Convention of Psychological Science (ICPS), Paris, France.
- Boonsuk, W., Bai, B., Liu, P. P., & Bai, R. (2019). *Reducing Energy Cost Through the Use of Smart Home Devices and Historical Pricing Data*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Fueling the Fourth Industrial Revolution Industry 4.0, Charlotte, NC.
- +Boonsuk, W., Eveland, D., Miller, J., & Slaven, I. (2019). *Immersive Simulation Training in Virtual Reality: A Case Study of Climbing Cell Tower*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Fueling the Fourth Industrial Revolution Industry 4.0, Charlotte, NC.
- +Valenzio, D., & Boonsuk, W. (2019). *Design and Development of Beetle Weight Robot*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Eveland, D., Miller, J., Boonsuk, W., & Slaven, I. (2019). *Using Virtual Reality to Simulate Climbing a Cell Phone Tower*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.

- +Gray, K., Boonsuk W., & Grant, G. J. (2019). *Development of Precision Virtual Reality Training Systems with Haptic Feedback and 4th Dimension Capabilities*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Bai, B., Boonsuk, W., & Liu, P. P. (2019). *Development of Database for Data Trend Analysis: Smart Power Database Based on Oracle*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Boonsuk, W., Przygoda, N., Bai, R., & Liu, P. P. (2018). *Altering Consumer Behaviors for Energy Cost Saving Using Utility Pricing Policy Models and Smart Grid Technology*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: The Future Starts Here, Kansas City, Missouri.
- +Laleian, T. E., & Boonsuk, W. (2018). *The Risks and Rewards of Cryptocurrency Mining*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: The Future Starts Here, Kansas City, Missouri.
- Bai, R., Boonsuk, W. & Liu, P. P. (2018). *A Study of Autonomous (Self-Driving) Vehicle Technology*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: The Future Starts Here, Kansas City, Missouri.
- Bai, R., Boonsuk, W. & Liu, P. P. (2018). *Internet of Things (IoT) Automation with Speech Recognition on Raspberry Pi*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: The Future Starts Here, Kansas City, Missouri.
- +Przygoda, N., & Boonsuk, W. (2018). *Energy Tracking and Pattern Recognition under Resident Sector*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Devulapally, M., & Boonsuk, W. (2018). *Minimizing E-waste Through the Concepts of Waste Management*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Blackburn, M., & Boonsuk, W. (2018). *RGB-D Camera Sensor Mounting Fixture*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Laleian, T. E., Valenzio, D. A., & Boonsuk, W. (2018). *Development of the School of Technology's Combat Bot*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Fleming, M. E., & Boonsuk, W. (2018). *What is the purpose of Technology in the Millennium Education?* Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- Boonsuk, W. (2017). *Three-dimensional RGB-D Camera Sensor Usage for Industrial Robotics Applications*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Constructing a Future for Tomorrow, Cincinnati, OH.
- +Patel, A., Naseri, S., & Boonsuk, W. (2017). *Performance Analysis for Time-of-Flight Ranging Sensor*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Constructing a Future for Tomorrow, Cincinnati, OH.

- +Ahmed, T., Bai, R., Boonsuk, W., & Liu, P. P. (2017). *Smart Home Technologies Enabled by Smart Grid*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Constructing a Future for Tomorrow, Cincinnati, OH.
- Boonsuk, W., Liu, P. P., & Surjadi, F. F. (2017). *Designing Web-based Interface for Older Adults' Technology Utilization*. Presented at the International Convention of Psychological Science (ICPS), Vienna, Austria.
- +Sangi, I., Liu, P., Bai, R., & Boonsuk, W. (2017). *Maximizing Involvement of Electric Consumer in Smart Grid & Smart Home*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Patel, A., Naseri, S., & Boonsuk, W. (2017). *Performance Analysis for Time-of-Flight Ranging Sensor*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Przygoda, N., & Boonsuk, W. (2017). *RFID Application within 3D Printed, Functional Prosthesis*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Fatheree, T., Morrell, J., Przygoda, N., Coleman, S., Patel, A., Naseri, S., & Boonsuk, W. (2017). *Development of a Multifunctional Bionic Hand*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Coleman, S., Morrell, J., & Boonsuk, W. (2017). *School of Technology at NRC*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- +Chandler, J., & Boonsuk, W. (2017). *Utilization of GIS in Sustainable Energy*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- + Blair, J., & Boonsuk, W. (2017). *Smart Home Thermostats ROI*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- Boonsuk, W. (2016). *Development of Mobile Robot for 3D Indoor Mapping Using Lidar Sensor*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Entering the Future, Orlando, FL.
- +Chandler, J. O., Liu, P., Boonsuk, W., & Kronenfeld, B. J. (2016). *GIS Application for Sustainable Energy*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Entering the Future, Orlando, FL.
- Bai, R., Liu, P., & Boonsuk, W. (2016). *Web Crawling and Data Mining with Apache Nutch*. Presented at the Associated of Technology, Management, and Applied Engineering (ATMAE) Conference: Entering the Future, Orlando, FL.
- +Creasor, G., & Boonsuk, W. (2016). *Design and Development of an Automated System used to Measure and Calibrate through Vibration Frequencies*. Presented at the Student Research & Creative Discovery Conference, Eastern Illinois University, Charleston, IL.
- Boonsuk, W. (2016). *Investigating the Effects of Stereo Baseline Distance on Accuracy of 3D Projection for Industrial Robotic Applications*. Presented at the 5th International Association of Journals &

Conferences (IAJC)/International Society of Agile Manufacturing (ISAM) Joint International Conference on Engineering & Technology, Orlando, FL.

Boonsuk, W. (2015). *Evaluation of Stereoscopic Vision for Manufacturing Applications*. Presented at the Association of Technology, Management, and Applied Engineering (ATMAE) Conference: Building Bridges, Pittsburgh, PA.

Boonsuk, W., & Surjadi, F. F. (2015). *Gender Differences in 3D Stereoscopic Vision for Teleoperation*. Presented at the International Convention of Psychological Science (ICPS), Amsterdam, The Netherlands.

Boonsuk, W. (2014). *Development of GIS-Based Approach for Facilities Layout Planning*. Presented at the ATMAE Conference: Technology-Tomorrow's Gateway, St. Louis, MO.

+Garrard, A. C., & Boonsuk, W. (2014). *Controlling Quality Problems Using Lean Principles: A Case Study*. Presented at the 5th Annual Student Research Symposium, Charleston, IL.

Boonsuk, W. (2013). *Rapid Prototyping: Concept, Technology, and Applications*. EIU Technology & Science Symposium: Revolutions in Science and Technology Paradigms, Charleston, IL.

Boonsuk, W., Gilbert, S., & Kelly, J. W. (2011). *Usability Study for 360-Degree View Interfaces*. Presented at the Emerging Technologies Conference, Ames, IA.

Boonsuk, W., & Gilbert, S. (2010). *Surveillance Interface for Virtual Training*. Presented at the American Society of Mechanical Engineers (ASME) World Conference on Innovative Virtual Reality (WINVR), Ames, IA.

Boonsuk, W., & Frank, M. C. (2008). An Algorithm for Registering Medical Images for Biomedical Manufacturing. *Institute of Industrial Engineers (IIE) Annual Conference and Exposition*. Vancouver, BC.

Boonsuk, W., & Frank, M. C. (2005). The Use of Sacrificial Support Structures in a Rapid Machining Process. *Institute of Industrial Engineers (IIE) Annual Conference and Exposition*. Atlanta, GA.

GRANTS & CONTRACT

External

From Smart Grid to Smart Homes: Empowering Utility Customers to Fully Utilize the Benefits Offered by Smart Grid in Voice-Activated Smart Home Technology, Funded by Illinois Science & Energy Innovation Foundation (ISEIF), July 2018 – July 2019, \$100,000 with Dr. Peter P. Liu, Dr. Rendong Bai, Dr. Toqeer A Israr, and Dr. Nichole Hugo.

Smart Grid Consumer Independence Project, Funded by Illinois Science & Energy Innovation Foundation (ISEIF), January 2017 – December 2017, \$200,000. Collaborative grant between School of Technology, School of Family & Consumer Sciences, and HelpAnswers.Org.

Improving Enterprise Resource Planning (ERP) System, Funded by Leading Lady, Inc., Beachwood, OH, February 15, 2016 – March 29, 2016, \$1,200
Collaborated with industry partner to improve its Enterprise Resource Planning (ERP) System.

Internal

ATMAE Robotics Competition 2019, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2019 – Summer 2020 (FY20), \$2,000.

National Robotics Challenge 2020, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2019 – Summer 2020 (FY20), \$2,000.

ATMAE Robotics Competition 2018, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2018 – Summer 2019 (FY19), \$1,500.

Biometric Application Development, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2018 – Summer 2019 (FY19), \$1,250 with Dr. Rigoberto Chinchilla, and Dr. Toqeer Israr.

National Robotics Challenge 2019, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2018 – Summer 2019 (FY19), \$1,250.

Quality Inspection, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2018 – Summer 2019 (FY19), \$1,500.

National Robotics Challenge 2018, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2017 – Summer 2018 (FY18), \$1,500.

ATMAE Robotics Competition 2018, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2017 – Summer 2018 (FY18), \$1,500.

Development of a Virtual Reality Test Room for Undergraduate Game Development and Interactive Simulation. Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2017 – Summer 2018 (FY18), \$1,500 with Dr. Gabriel J. Grant.

Building Autonomous Driving Platform, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2017 – Summer 2018 (FY18), \$1,500 with Dr. Rendong Bai and Dr. Peter P. Liu.

Stereoscopic Cameras for Enhancing Student Learning Experience in Robotics and Control Systems Course, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2016 – Summer 2017 (FY17), \$1,500.

National Robotics Challenge 2017, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2016 – Summer 2017 (FY17), \$1,500.

The Association of Technology, Management, and Applied Engineering (ATMAE) Robotics Competition, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2016 – Summer 2017 (FY17), \$1,500.

Application of 3D printer and robot kits to increase student engagement and learning experience, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2015 – Summer 2016 (FY16), \$1,500.

The Association of Technology, Management, and Applied Engineering (ATMAE) Robotics Competition, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2015 – Summer 2016 (FY16), \$1,500.

Handheld 3D scanner for rapid prototyping applications, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2014 – Summer 2015 (FY15), \$1,450.

Improving student learning and hands-on experience, Funded by Eastern Illinois University, Redden Fund for the Improvement of Undergraduate Instruction, Fall 2013 – Summer 2014 (FY15), \$1,494.

Vision Systems for Inspection Using RGB-D Sensor, Funded by Eastern Illinois University, Research Stipend 2012 – 2013, \$4,500.

TEACHING EXPERIENCE

Eastern Illinois University, School of Technology, 2012 – present

Undergraduate

AET 1263 – Material Technology

AET 4763 – Rapid Prototyping Technology

AET 4803 – Plant Layout and Material Handling

CIT 3313 – 3D Modeling for Gaming, Animation, and Simulation

CIT 4163 – Database in Technology

EGT 3103 – Robots and Control Systems

EGT 3763 – Automation and Data Capture

EGT 4753 – Lean Manufacturing

EGT 4843 – Statistical Quality Assurance

EGT 4943 – Manufacturing Management

EIU 4102 – Technology and Society

Graduate

TEC 5133 – Total Quality Systems

TEC 5243 – Design for Quality

TEC 5323 – Advanced Database Technology

Northern Illinois University, Department of Technology & Department of Industrial & Systems Engineering, 2011 – 2012

ISYE 460/560 – Facilities Planning and Design

TECH 492/592 – Manufacturing Distribution Applications

TECH 210 – Engineering Mechanics: Statics

TECH 212 – Engineering Mechanics: Dynamics

Iowa State University, Graduate Program in Human Computer Interaction, 2011

HCI 591 – Seminar in Human Computer Interaction

HCI 598 – Human Computer Interaction Capstone

Iowa State University, Department of Mechanical Engineering, 2008

ENG/ME 170 – Engineering Graphics and Introductory Design

CREATIVE ACTIVITIES & MENTORING EXPERIENCE

Association of Technology, Management, and Applied Engineering (ATMAE) Robotics Competition, 2016 – present

Mentor and supervise group of graduate and undergraduate students to design and develop a robot for the ATMAE Robotics Competition
3rd place in Fabrication and Safety Category, 2019
1st place on Technical Report, 2018
2nd place in Overall Competition, 2018

National Robotics Challenge, 2017 – present

Supervise group of graduate and undergraduate students to design and develop robots to compete in a national-level robotics competition

Annual D214 Robot Rumble Competition, 2016 – 2018

Supervise group of undergraduate students to design and develop a robot for the Rumble Competition

STEM project, Paris High School, Paris, IL, 2015 – 2016

Worked with high school teachers and students to provide guidance for students' STEM project

Research Experiences for Undergraduates (REU) program, Iowa State University, Virtual Reality Applications Center (VRAC), Ames, IA, 2009

Mentored undergraduate students in REU program sponsored by National Science Foundation (NSF)

UNIVERSITY SERVICE

University Committee

Williams Travel Grants Committee, 2019 – present
Library Advisory Board, 2016 – 2019
Achievement and Contribution Awards Selection Committee, 2016 – 2017
Research & Creative Activity Advisory Board Committee, 2013 – 2018
Lord and Cole Scholarship Committee, 2014

Lumpkin College of Business & Applied Sciences Committee

Faculty Awards Vetting Committee, 2019
Research Vetting Committee, 2016 – 2017
Student Commencement Speaker Committee, 2014 – 2017

School of Technology Committee

Curriculum Committee, 2019 - present
Graduate Program Committee, 2018 – present
Scholarship and Awards Committee, 2018 – present
Technology Program Committee, 2016 – present
Applied Engineering and Technology (AET) Committee, 2012 – present
Computer & Information Technology Committee, 2013 – present
Cyber Security Committee, 2013 – present
Energy Conf & Sustainability Planning Committee, 2013 – present

Engineering Technology Committee, 2017 – present
School of Technology Personnel Committee, 2013 – 2016

PROFESSIONAL SERVICE

Ad hoc reviewer, Rapid Prototyping Journal, 2009 – present
Manuscript reviewer, The International Conference on Remote Engineering and Virtual Instrumentation (REV), 2018 – 2019
Proceeding reviewer, The Association of Technology, Management, and Applied Engineering (ATMAE): Fueling the Fourth Industrial Revolution Industry 4.0, Charlotte, NC, 2019
Manuscript reviewer, Energy Strategy Reviews, 2017 – 2018
Proceeding reviewer, The ACM Conference on Human Factors in Computing Systems (CHI), 2018
Proceeding reviewer, The Association of Technology, Management, and Applied Engineering (ATMAE): Constructing a Future for Tomorrow, Cincinnati, OH, 2017
Proceeding reviewer, The International Conference on Remote Engineering and Virtual Instrumentation (REV), Columbia University, New York, 2017
Proceeding reviewer, The Association of Technology, Management, and Applied Engineering (ATMAE): Enter the Future, Orlando, FL, 2016
Proceeding reviewer, The National Conferences on Undergraduate Research (NCUR), University of North Carolina Asheville, NC, 2016
Proceeding reviewer, ATMAE Conference: Building Bridges, Pittsburgh, PA, 2015
ATMAE student research competition judge: ATMAE Conference: Building Bridges, Pittsburgh, PA, 2015
Proceeding reviewer, ATMAE Conference: Technology-Tomorrow's Gateway, St. Louis, MO, 2014
ATMAE student robotics competition judge: ATMAE Conference: Technology-Tomorrow's Gateway, St. Louis, MO, 2014

COMMUNITY SERVICE

History fair website judge, Northern Illinois Regional History Fair, DeKalb, IL, 2014 – 2017
Science fair competition judge, State Science and Technology Fair of Iowa, Ames, IA, 2011

SERVICE ON THESIS COMMITTEES

As Major Professor

Jeffrey O. Chandler, Modernizing American Energy through GIS, completed 2017
Andrew R. Brachear, Does the Geographic Information Systems Benefit the Insurance Industry? completed 2015

As Committee Member

Geethmi Nimantha Dissanayake, A Study on Real-Time Database Technology and Its Applications, 2019
Anuoluwapo O Fatokun, Defense in Depth Network Perimeter Security, completed 2018
Michael W. Brown, Using a Reverse Engineering Process to Recreate Obsolete Parts, completed 2016
Adekunle Adeyemo, Design of an Intrusion Detection Systems and an Intrusion Prevention Systems, completed 2016
Satish Kumar Singarapu, Attitudes of Professors towards Open Access in Different Departments at Eastern Illinois University, completed 2014

HONORS AND AWARDS

Achievement and Contribution Award in Research and Creative Activity, Eastern Illinois University, 2018
Provost's Undergraduate Research Mentor Award for the Lumpkin College of Business and Applied Science, Eastern Illinois University, 2017

Achievement and Contribution Award in Teaching, Eastern Illinois University, 2015

Highly Commended Paper Award for Excellence, Emerald Literati Network, 2010

Tau Beta Pi, Engineering Honor Society, 2005

Kasetsart University Honor for Bachelor of Business Administration, (selection criteria based on scholarship and highest-grade point average), Thailand, 1996

PROGRAMMING AND SOFTWARE EXPERTISE

Languages

C++, Java, Java Script, C#, Visual Basic, Python

CAD/CAM

AutoCAD, SolidWorks, Pro/Engineer, Mastercam, Rhinoceros

Computer Graphics

OpenCV, OpenGL, OpenSceneGraph, 3DS Max, Maya, Game engines (Unity, Irrlicht, Delta3D, Torque)

Engineering Tools

Matlab, Magics, Rapidform, Mimics, Ansys

Statistics

R, SPSS, SAS

Web and Database

HTML, ASP.NET, AJAX, Oracle, Microsoft SQL, MySQL, Microsoft Access

Geographic Information System (GIS)

ArcInfo, ArcMap, GeoDa, OpenLayers, GeoServer