

CHANGWON SON

Wm Michael Barnes '64 Department of Industrial and Systems Engineering, Texas A&M University
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EDUCATION

Texas A&M University, College Station, TX Aug. 2016-May 2021 (exp.)

Ph.D. Candidate, Industrial and Systems Engineering

Committee: Farzan Sasangohar (chair), S. Camille Peres (co-chair), Jason B. Moats, Mark Lawley

GPA: 4.0/4.0

Texas A&M University, College Station, TX Aug. 2014-Aug. 2016

M.Sc., Safety Engineering

Mary Kay O'Connor Process Safety Center, Department of Chemical Engineering

Committee: M. Sam Mannan (chair), Chad V. Mashuga, Maria Barrufet

GPA: 3.8/4.0

Hanyang University, Seoul, South Korea Mar. 2000-Dec. 2007

B.Sc., Industrial Engineering

GPA: 3.5/4.0

Pittsburg State University, Pittsburg, KS Aug. 2006-Jul. 2007

Exchange student, Mechanical Engineering

GPA: 3.9/4.0

RESEARCH FOCUS

Human Factors, Cognitive Systems Engineering, Resilience Engineering, Disaster Management, System Safety, Healthcare Safety, Occupational and Process Safety

RESEARCH EXPERIENCE

Texas A&M University, College Station, TX

Graduate Research Assistant

Applied Cognitive Ergonomics (ACE) Lab Aug. 2016-Present

Director: Dr. Farzan Sasangohar

- **Dissertation Research:** 'Analyzing Work-as-imagined and Work-as-done of Incident Management Teams Using Interactions between Cognitive System Components'.
- **Human-Team-Machine Interaction in Emergency Response Project** (PI-S. Camille Peres; co-PI: Farzan Sasangohar): Investigating human-human and human-technology interactions to conceptualize team cognition in emergency management (NSF EAGER Grant #1724676).
- **Biofeedback for Mental Health Project:** Developing engineering technologies for remote biometric data monitoring based on wearable sensors and mobile applications to offer remedies for mental issues of various populations (e.g., PTSD patients, students under stress, the elderly).
- **EMPOWER Safety Dashboards Project** (Project Director-Stephanie Payne; PIs-Farzan Sasangohar & Ranjana Mehta): Measuring offshore workers' safety culture, readiness, and fatigue and promoting line supervisor's decision making in day-to-day operations (NASEM Safe Offshore Energy Systems Grant).
- **COVID-19 Impact on College Student Mental Health:** Assessing college students' stress and coping mechanism in the face of the COVID-19 pandemic via online interview and survey.

Research on Interfaces between Humans and Machines (RIHM) Lab Aug. 2016-Present
Director: Dr. S. Camille Peres

- **Next Generation Advanced Procedure (NGAP) Project:** Investigating the current limitations of operating procedures used in high-risk industries and improves the design and implementation of the procedures using cognitive systems engineering (e.g., visual perception, abstraction hierarchy) approach.
- **Human-Robotic Interactions During Disaster Operations** (PI-Ranjana K. Mehta; Co-PIs: Robin Murphy, S. Camille Peres): Identifying the relationships between human operators (e.g., pilot) and robots (e.g., unmanned aerial vehicle) during search and rescue operations based on qualitative data (observation, survey) and quantitative data (heart rate).

Mary Kay O'Connor Process Safety Center (MKOPSC) Aug. 2014-Present
Dr. Stewart Behie

- **Thesis Research:** 'A Study of Safety Culture Assessment Framework for Process Industries and Its Application to a Bayesian Belief Network Analysis'.
- **Post-Hurricane Supply Chain Resilience:** Identifying hazards of hurricanes, vulnerabilities of post-hurricane supply chain and suggesting recommendations to improve government disaster relief efforts.
- **Korean Chemical Security Assessment Tool (K-CSAT):** Collaboration with a project team of a Korean Government agency and an academic institution to develop chemical security assessment tool for chemical industries in Korea.

Baker Engineering and Risk Consultants, Houston, TX Jun. 2015-Dec. 2015
Process Safety Engineering Co-op
Research Mentor: Dr. Devin Averett

- **Engineering Research Project:** Binary Interaction Parameter (BIP) regression to improve vapor-liquid equilibrium of polar mixtures.

GRANTS, AWARDS, & HONORS

Research Grants

- **Texas Sea Grant**, Grants-In-Aid of Graduate Research Program. 'Identifying Sources of Resilience in a Large-scale Disaster Management through Dynamic Team Interaction' (faculty advisor: Farzan Sasangohar): **\$1,950** 2018-2019
- **Aggies Commit Mini-Research Grant**, Office of Graduate and Professional Studies, TAMU. 'Resilient Performance of Incident Responders during Hurricane Harvey': **\$1,400** 2017-2018

Proposal Writing Skills

- **Proposal Writing for Doctoral Students** Fall, 2019
Instructor: Dr. Zhijian (ZJ) Pei (Former NSF Advanced Manufacturing Program Director)
 - Learned about **NSF Core Programs** and specific requirements of **NSF PAPPG**.
 - Wrote a standard NSF proposal by writing **Project Summary** and individual sections of **Project Description** including Objectives and Significance, **Intellectual Merit** and **Broader Impacts**.

Awards & Honors

- **Student Member with Honors**, Human Factors and Ergonomics Society (HFES) 2020
- **Council of Technical Group Student Presenter Award**, the 64th HFES Annual Meeting 2020
- **Emerging Leader**, HFES 2020
- **Best Student Paper**, the 63rd HFES Annual Meeting Safety Technical Group 2019
- **Student Competition Winner**, 2019 Resilience Week 2019

- **Graduate Student Research and Presentation Travel Award, TAMU (\$1,000)** 2018
- **Outstanding Graduate Student Award, Industrial and Systems Engineering Dep't, TAMU** 2018
- **Texas Safety Foundation Steve Halliburton HSE Scholarship, American Society of Safety Engineers (\$2,500)** 2018
- **Young Talent, Resilience Engineering Association (€1,000 travel grant)** 2017
- **Best Poster Presentation Award, Inaugural Texas A&M Conference on Energy (\$200)** 2016
- **Award of Excellence Performance, Hoegh LNG Carriers Project** 2014
- **Safety Excellence Award, Brunei Gas LNG Carriers Project** 2013
- **Safety Excellence Award, Eni Norge Goliath FPSO Project** 2010
- **Dean's Scholastic Honors, Pittsburg State University** Spring, 2007
- **All A Scholastic Honors, Pittsburg State University** Fall, 2006
- **Scholarship of Academic Excellence, Honor, Hanyang University (Tuition waiver)** Fall, 2005
- **Scholarship of Academic Excellence, Top, Hanyang University (Tuition waiver)** Spring, 2005

PUBLICATIONS

Refereed Journal Articles (accepted or published)

- [J.09] Wang, X., Hegde, S., **Son, C.**, Keller, B., Smith, A., Sasangohar, F. (2020). Investigating Mental Health of US College Students During the COVID-19 Pandemic: Cross-Sectional Survey Study. *Journal of Medical Internet Research*, 22(9), e22817. DOI: 10.2196/22817
- [J.08] **Son, C.**, Hegde, S., Smith, A., Wang, X., Sasangohar, F. (2020). Effects of COVID-19 on College Students Mental Health in the US: An Interview-survey Study. *Journal of Medical Internet Research*, 22(9), e21279. DOI: 10.2196/21279
- [J.07] Moon, J. Sasangohar, F., **Son, C.**, Peres, S.C. (2020). Cognition in Crisis Management Teams: An Integrative Analysis of Definitions. *Ergonomics*, 63(10), 1240-1256. DOI: 10.1080/00140139.2020.1781936
- [J.06] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2020). Muddling through troubled water: resilient performance of incident management teams during Hurricane Harvey. *Ergonomics*, 63(6), 643-659. DOI: 10.1080/00140139.2020.1752820
- [J.05] **Son, C.**, Larsen, E.P., Sasangohar, F., Peres, S.C. (2020). Opportunities and challenges for resilient hospital incident management: Case study of a hospital's response to Hurricane Harvey. *Journal of Critical Infrastructure Policy*, 1(1), 81-104. DOI: 10.18278/jcip.1.1.7
- [J.04] **Son, C.**, Sasangohar, F., Peres, S.C., Neville, T.J., Moon, J. (2020). Investigating Resilience in Emergency Management: An Integrative Review of Literature. *Applied Ergonomics*, 87, 103114. DOI: 10.1016/j.apergo.2020.103114
- [J.03] **Son, C.**, Sasangohar, F., Peres, S.C., Neville, T.J., Moon, J. (2020). Evaluation of Work-as-Done in Information Management of Multidisciplinary Incident Management Team via Interaction Episode Analysis. *Applied Ergonomics*, 84, 103031. DOI: 10.1016/j.apergo.2019.103031.
- [J.02] **Son, C.**, Sasangohar, F., Rao, A., Larsen, E.P. (2019). Resilient Performance of Emergency Department: Patterns, Models and Strategies. *Safety Science*, 120, 362-373. DOI: 10.1016/j.ssci.2019.07.010.
- [J.01] **Son, C.**, Sasangohar, F., Peres, S.C., Neville, T.J., Moon, J., & Mannan, M.S. (2018). Modeling an Incident Management Team as a Joint Cognitive System. *Journal of Loss Prevention in the Process Industries*, 56, 231-241. DOI: 10.1016/j.jlp.2018.07.021.

Manuscripts in progress (in revision or in preparation)

- [M.02] **Son, C.**, Sasangohar, F., Peres, S.C. Qualitative and quantitative analyses of work-as-imagined and work-as-done of incident management teams using interaction episodes. *Human Factors*. (in preparation)

[M.01] Hegde, S., Zahed, K., Markert, C., **Son, C.**, Sadeghi, M., Sasangohar, F. Lessons learned from an in-situ study of a mobile biofeedback application usage among student veterans during COVID-19 pandemic. *Journal of Medical Internet Research* (in preparation)

Conference Proceedings

[C.15] **Son, C.**, Sasangohar, F., Peres, S.C., Moon, J. (accepted). Designing an emergency management simulation testbed to investigate incident management team performance. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*.

[C.14] **Son, C.**, Peres, S.C., Sasangohar, F. (accepted). Developing a novel operator performance measure for procedural tasks based on Safety-II perspective. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*.

[C.13] Moon, J., Sasangohar, F., Peres, S.C., **Son, C.** (accepted). Interactive Team Cognition in Incident Action Planning: A Network Approach to Assess Work-As-Done Within and Between Multidisciplinary Crisis Management Teams. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*.

[C.12] Hegde, S., Zahed, K., **Son, C.**, Markert, C., Sasangohar, F. (accepted). Facilitating the Practice of Biofeedback Via Mobile Applications and Wearable Devices for Self-Management of Mental Health. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*.

[C.11] Mendonza, A.M., Liu, S.C., Dumlao, S.V., Hendricks, J.W., **Son, C.**, Sasangohar, F., Peres, S.C. (accepted). Where Two Ends Meet: Operator and Stakeholder Perceptions of Procedures. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*.

[C.10] **Son, C.**, Peres, S.C., Ade, N. (2019). Reflecting Abstraction Hierarchy of a Chemical Processing System on Standard Operating Procedures. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 1806-1810. **(Best Student Paper, HFES Safety Technical Group)**

[C.09] **Son, C.**, Sasangohar, F., Peres, S.C., Moon, J. (2019). Orchestrating through Whirlwind: Identified Challenges and Resilience Factors of Incident Management Teams during Hurricane Harvey. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 899-903.

[C.08] Moon, J., Sasangohar, F., Peres, S.C., Neville, T.J., **Son, C.** (2019). Investigating Incident Management Teams as Cognitive Systems of Systems via Network Analysis of Real Time Interactions. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 1955-1956.

[C.07] **Son, C.**, Peres, S.C., Ade, N., Sasangohar, F. (2019). A Dilemma on Procedure Compliance: Reflection of Ecological Approach on Standard Operating Procedures. *Proceedings of 2019 Mary Kay O'Connor Process Safety Center International Symposium*.

[C.06] Neville, T. J., Peres, S.C., Ade, N., **Son, C.**, Bagaria, P., Quddus, N., & Mannan, M.S. (2018). Assessing Procedure Adherence Under Training Conditions in High Risk Industrial Operations. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 1604-1604.

[C.05] Moon, J., Sasangohar, F., Peres, S. C., Neville, T. J., & **Son, C.** (2018). Modeling Team Cognition in Emergency Response via Naturalistic Observation of Team Interactions. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 1801-1802.

[C.04] **Son, C.**, Sasangohar, F., Peres, S. C., & Mannan, S. (2018). An Episode as a Trace of Resilient Performance in Large-Scale Incident Management Systems. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 787-787.

[C.03] **Son, C.**, Moon, J., Sasangohar, F., Peres, S.C. (2018). An Episode as a Trace of Resilient Performance in Multi-Agency Incident Management Systems. *Proceedings of the 15th International Conference on Information Systems for Crisis Response and Management*, 942-948.

[C.02] **Son, C.**, Sasangohar, F., & Peres, S. C. (2017). Redefining and Measuring Resilience in Emergency Management Systems. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 61(1), 1651-1652.

[C.01] **Son, C.**, Halim, S.Z., Koirala, Y., Mannan, M.S. (2017). Incorporating Human Factors Engineering Methods in the System Life Cycle of Offshore Oil and Gas Industries. *Proceedings of Institution of Chemical Engineers Symposium Series: Hazards 27*, 162.

PRESENTATIONS (presenter underlined)

Conference Presentations

- [P.25] Son, C., Peres, S.C., Sasangohar, F. (2020, October). Developing a Novel Operator Performance Measure for Procedural Tasks Based on Safety-II Perspective. *Oral presentation at the 64th Human Factors and Ergonomics Society Annual Meeting (Virtual)*.
- [P.24] Son, C., Sasangohar, F., Peres, S.C. (2020, October). Designing an Emergency Management Simulation Testbed to Investigate Incident Management Team Performance. *Oral presentation at the 64th Human Factors and Ergonomics Society Annual Meeting (Virtual)*.
- [P.23] Son, C., Peres, S.C., Sasangohar, F. (2020, October). Two Views of Evaluating Procedural Task Performance: A Transition from Safety-I to Safety-II Approach. *Oral presentation at 2020 Mary Kay O'Connor Process Safety Symposium, College Station, TX*.
- [P.22] Son, C., Peres, S.C., Sasangohar, F. (2020, August). New Wine in New Cups: Measuring Operator Performance for Safety-II Perspective. *Poster presented at the 16th Global Congress on Process Safety, Houston, TX*.
- [P.21] Son, C., Larsen, E.P., Sasangohar, F. (2020, May). A Safety-II Perspective towards Hospital Incident Management during Hurricane Harvey. *Poster presentation at the 2020 International Symposium on Human Factors and Ergonomics in Health Care* (presented virtually due to COVID-19).
- [P.20] Son, C., Sasangohar, F., Peres, S.C., Moon, J. (2020, February). Characteristics of resilient incident management teams during an extreme event: A case study of Hurricane Harvey. *Poster presented at the 2nd Texas Disaster Management Symposium, College Station, TX*.
- [P.19] Son, C., Sasangohar, F., Peres, S.C., Moon, J. (2019, November). Resilience Traits of Incident Management Teams During Hurricane Harvey: A Qualitative Analysis from a Joint Cognitive Systems Perspective. *Oral presentation at 2019 Resilience Week, San Antonio, TX. (Winner of the Student Competition)*
- [P.18] Son, C., Sasangohar, F., Peres, S.C., Moon, J. (2019, October). Orchestrating through Whirlwind: Resilience Factors of Incident Management Teams during Hurricane Harvey. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting, Seattle, WA*.
- [P.17] Son, C., Peres, S.C., Ade, N. (2019, October). Reflecting Abstraction Hierarchy of a Chemical Processing System on Standard Operating Procedures. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting, Seattle, WA*.
- [P.16] Moon, J., Sasangohar, F., Peres, S.C., Neville, T.J., Son, C. (2019, October). Investigating Incident Management Teams as Cognitive Systems of Systems via Network Analysis of Real Time Interactions. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting, Seattle, WA*.
- [P.15] Son, C., Sasangohar, F., Peres, S.C., Moon, J. (2019, September). Resilience Functions of Incident Management Teams during Hurricane Harvey: A Qualitative Study. *Oral presentation at 2019 Resilience Rising Symposium of Hazard Reduction & Recovery Center, College Station, TX*.
- [P.14] Son, C., Ade, N., Peres, S.C., Neville, T.J. (2019, April). Analyzing Standard Operating Procedures using Abstraction Hierarchy: Implications for Designing Procedures. *Poster presented at the 15th Global Congress on Process Safety, New Orleans, LA*.
- [P.13] Son, C., Larsen, E., Sasangohar, F. (2019, April). A Comparison Between Government and Hospital Incident Management Teams during Hurricane Harvey. *Poster presented at the 15th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium, Houston, TX*.
- [P.12] Son, C., Sasangohar, F., Peres, S.C., Moon, J. (2019, April). Resilience Factors of Incident Management Teams during Hurricane Harvey. *Poster presented at the 15th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium, Houston, TX*.
- [P.11] Son, C., Sasangohar, F., Peres, S.C., Moon, J., Neville, T.J., Larsen, E. (2019, March). Same Disaster, Different Response: A Comparison Between Government and Hospital Incident Management Teams during Hurricane Harvey. *Poster presented at the 2019 International Symposium on Human Factors and Ergonomics in Health Care, Chicago, IL*.

- [P.10] **Son, C.**, Sasangohar, F., Peres, S.C., Neville, T.J. (2018, October). Representing ‘Work-As-Done (WAD)’ of Communication and Information Flow in an Incident Management Team. *Oral presentation at the 21st MKOPSC International Symposium*, College Station, TX.
- [P.09] **Son, C.**, Sasangohar, F., Peres, S.C., Moon, J., Neville, T.J. (2018, September). An Interaction-based Episode as ‘Work-As-Done’ in a Multidisciplinary Incident Management Team: A Trace of Resilient Performance. *Oral presentation at the 62nd Human Factors and Ergonomics Society Annual Meeting*, Philadelphia, PA.
- [P.08] **Son, C.**, Sasangohar, F., Peres, S.C., Moon, J., Neville, T.J. (2018, April). Representing Work-As-Done (WAD) of Communication and Information Flow in an Incident Management Team. *Poster presented at the 14th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, TX.
- [P.07] **Moon, J., Son, C.**, Sasangohar, F.*, Peres, S.C., & Neville, T.J. (2018, April). Modeling team cognition for coordinated decision-making in emergency response via naturalistic observation of interactions. *Poster presented at the 14th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, Texas.
- [P.06] **Son, C.**, Moon, J., Sasangohar, F., Peres, S.C., Mannan, M.S. (2018, March). Extracting Episodes as a Trace of Resilient Performance of Multi-Agency Incident Management Systems. *Poster presented at the 2018 International Symposium on Human Factors and Ergonomics in Healthcare*, Boston, MA.
- [P.05] **Son, C.**, Peres, S.C., Sasangohar, F. (2017, October). Conceptualizing Multiagency Emergency Management Systems. *Oral presentation at the 20th MKOPSC International Symposium*, College Station, TX.
- [P.04] **Son, C.**, Peres, S.C., Sasangohar, F. (2017, October). Defining and Measuring Resilience in Emergency Management Systems. *Oral presentation at the 61st Human Factors and Ergonomics Society Annual Meeting*, Austin, TX.
- [P.03] **Son, C.**, Sasangohar, F., Peres, S.C. (2017, June). Cognitive basis for defining and measuring resilience of emergency management systems. *Poster presented at the 13th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, San Antonio, TX.
- [P.02] **Son, C.**, Bernat, M., Sasangohar, F. (2017, March). Towards More Resilient Performance of Emergency Department. *Poster presented at the 2017 International Symposium on Human Factors and Ergonomics in Health Care*, New Orleans, LA.
- [P.01] **Son, C.**, Marengo-Ramirez, C., Mannan, M.S. (2016, September). Safety culture assessment framework and its application to a Bayesian Belief Network analysis. *Poster presented at the Inaugural Texas A&M Conference on Energy*, College Station, TX. (**Winner of the Best Poster Presentation Award**)

Invited Talks

- [T.03] **Son, C.** (2019, November 7). A systems approach towards the procedure performance: the promise of abstraction hierarchy. *Invited webinar at the Next Generation Advanced Procedures (NGAP) Consortium Webinar Series*.
- [T.02] **Son, C.** (2019, February 28). Resilience in Emergency Management: A New Perspective on Safety of Complex Systems. *Invited presentation at Texas Chemical Council Process Safety Committee Meeting*, Pasadena, TX.
- [T.01] **Son, C.** (2015, March 12). Case Study: 2013 High-density Polyethylene Storage Silo Explosion Yeosu, South Korea. *Invited presentation at Mary Kay O’Connor Process Safety Center Steering Committee Meeting*, Houston, TX.

TEACHING EXPERIENCE

Texas A&M University

Instructor of Record

Economic Analysis of Engineering Projects (ISEN 302)

Fall, 2020

- Solely designed and delivered a full course both online and in-person where undergraduate engineering students learn fundamental principles and techniques for economic decision analysis and apply them to practical financial problems (88 students).
- Utilized synchronous and asynchronous online teaching methods and interactive tools (e.g., online polls, blackboard discussion) to accommodate student needs and increase motivation to learn.

Teaching Certificate

The Center for the Integration of Research, Teaching, & Learning (CIRTL)

- Network MOOC, An Introduction to Evidence-based Undergrad STEM Teaching Summer, 2020
- Learned advanced education philosophy and teaching skills to enhance undergraduate students' learning under online educational environment.

Center for Teaching Excellence, Academy for Future Faculty Fellow Program Fall, 2017-Spring, 2019

- Faculty Mentor: Dr. Thomas K. Ferris (Associate Professor, TAMU ISEN)
- Obtained a certificate of teaching that aims to implement and advance effective and inclusive teaching practices for diverse learners, active learning, course design, and appropriate assessment techniques.

Teaching Assistant

- System Safety Engineering (SENG 312/674) Spring, 2018
Instructor: Dr. Noor Quddus, Department of Chemical Engineering (59 students)
- System Safety Engineering (SENG 312/674) Spring, 2017
Instructor: Dr. Noor Quddus, Department of Chemical Engineering (89 students)

Guest Lecture

- Resilience Engineering: A New Insight on Safety of Socio-Technical Systems Apr. 2020
(ISEN 631, Cognitive Systems Engineering, Instructor: Dr. Thomas K. Ferris)
- Resilience Engineering: A New Paradigm for Safety Apr. 2019
(ISEN 631-Cognitive Systems Engineering, Instructor: Dr. Thomas K. Ferris)

MENTORING/SUPERVISING EXPERIENCE

Texas A&M University

Research Mentoring, Applied Cognitive Ergonomics (ACE) Lab

- Mentoring and supervising both graduate and undergraduate students with diverse backgrounds
 - Jainita Chauhan, ISEN, UG Research Assistant (Jan. 2020-Present)
 - Cittely Fuentes, ISEN, UG Research Assistant (Jan. 2020-May 2020)
 - Jessica Farias Zanette, ISEN, Graduate Research Assistant (Jan. 2020-May 2020)
 - Minsoo Kim, ISEN, Graduate Research Assistant (Jan. 2020-May 2020)
 - Vu Hoang Le, ISEN, UG Research Assistant (Jun. 2017-Dec. 2018)
 - Katherine Renter, ISEN, UG Research Assistant (Sep. 2017-Dec. 2018)
 - Trevor Hennington, ISEN, UG Research Assistant (Jul. 2017-Apr. 2018)
 - Justin Wood, ISEN, UG Research Assistant (Jun. 2017-Dec. 2017)
 - Jiahui Bian, ISEN, UG Research Assistant (Sep. 2017-May. 2018)
 - Alec Smith, ISEN, UG Research Assistant (Sep. 2017-Dec. 2018)
 - Nitesh Woonna, ISEN, UG Research Assistant (Jan. 2018-Dec. 2018)
 - Rohit Lilhare, ISEN, Graduate Research Assistant (Sep. 2018-Dec. 2018)
 - Tudor Tutuianu, ISEN, UG Research Assistant (Sep. 2018-Dec. 2018)
 - Sisley Yan, Psychology, UG Research Assistant (Sep. 2018-Oct. 2018)
 - Miha Bernat, ISEN, UG Research Assistant (Oct. 2016-Dec. 2017)

Aggie Research Leadership Program

Sep. 2019-May 2020

- Project: Team Resilience in Emergency Operations (TREO)
- Faculty Mentor: Dr. Farzan Sasangohar
- Leading and supervising a team of undergraduate students with diverse backgrounds
 - Anna Him, ISEN, Undergraduate Research Assistant
 - Kevin To, ISEN, Undergraduate Research Assistant
 - Lauren Luu, Public Health, Undergraduate Research Assistant
 - Prisha Patel, Public Health, Undergraduate Research Assistant

PROFESSIONAL DEVELOPMENT

Texas A&M University

- Professional Development Seminar** Spring, 2019
- Instructor: Dr. Harry Hogan (Associate Dean for Graduate Programs, TAMU)
 - Learned how to prepare for academic positions by developing research, teaching, and leadership skills and application materials needed for a faculty job.
- G.R.A.D. Aggies Professional Development Certificate** May, 2017
Office of Graduate and Professional Studies
- CIRTL Practitioner of Aggie Research Program, Teaching as Research** July, 2020
Office of Graduate and Professional Studies

PROFESSIONAL AFFILIATIONS & SERVICE

Reviewer for Journal Manuscripts

- Journal of Medical Internet Research (JMIR)** 2020-Present
- Reviewed 10 manuscripts including re-reviewing

Institute of Industrial and Systems Engineers (IISE), Student Member 2019-Present

Information Systems for Crisis Response and Management (ISCRAM), Student Member 2018-Present

Ergonomics Society of Korea (ESK), Member 2018-Present

Human Factors and Ergonomics Society (HFES), Student Member 2016-Present

- **Student Outreach Officer**, Augmented Cognition TG July 2020-Present
- **Session Chair, Co-Chair**, Healthcare TG, the 64th HFES Annual Meeting (virtual) Oct. 2020
- **Paper Reviewer**, Augmented Cognition, Occupational Ergonomics, Virtual Environment, Cognitive Engineering & Decision Making (CEDM), Healthcare TGs, and Student Forum Apr. 2020
- **Session Chair**, Safety and CEDM Sessions, the 63rd HFES Annual Meeting, Seattle, WA. Oct. 2019
- **Student Volunteer**, the 63rd HFES Annual Meeting, Seattle, WA. Oct. 2019
- **Paper Reviewer**, Safety, CEDM, Training, Healthcare, Macroergonomics TGs Apr. 2019
- **Session Co-chair**, Safety TG Session, the 62nd HFES Annual Meeting, Philadelphia, PA. Oct. 2018
- **Student Volunteer**, the 62nd HFES Annual Meeting, Philadelphia, PA. Oct. 2018
- **Paper Reviewer**, Health Care, CEDM, Occupational Ergonomics TGs Sep. 2018
- **Session Chair**, Clinical & Customer IT Track, 2018 HFES Healthcare Symposium, Boston, MA Mar. 2018
- **Student Volunteer**, 2018 HFES Healthcare Symposium, Boston, MA Mar. 2018
- **Student Volunteer**, the 61st HFES Annual Meeting, Austin, TX Oct. 2017
- **Paper Reviewer**, CEDM TG Mar. 2017

HFES Southwest Regional (Houston) Chapter, Student Member 2016-Present

- **Student Volunteer**, the 15th Annual Symposium, Houston, TX Apr. 2019
- **Student Volunteer**, the 14th Annual Symposium, Houston, TX Apr. 2018

Resilience Engineering Association (REA), Member 2016-Present

HFES Texas A&M University Student Chapter, Member 2016-Present

EMPLOYMENT HISTORY

Hyundai Heavy Industries, Ulsan, South Korea

Project Health, Safety, and Environmental (HSE) Manager Jan. 2008-Jul. 2014

- Held responsible for HSE issues in multiple ship/offshore platform construction projects.
- Investigated major fatality and high consequence events using root cause analysis.
- Developed computer-aided safety systems: e-Permit-to-work, GPS-based Crane Collision Prevention System.
- Formed a corporate safety climate questionnaire based on literature and conducted longitudinal surveys.
- Led safety audit to sub-contractors and vendors based on national and international standards.
- Collected and analyzed safety statistics (injury-free work hours, reportable injury rate, near-misses)

Baker Engineering and Risk Consultants, Houston, TX

Jun. 2015-Dec. 2015

Process Safety Engineering Co-op

- Conducted quantitative risk analyses (QRA) and facility siting studies (FSS)
- Wrote technical proposals and reports for safety engineering consulting projects.
- Conducted a research project to improve theoretical models of chemical release analysis software.

CERTIFICATIONS

Associate Safety Professional (ASP) (No.:ASP-32330) 2020

UK NEBOSH International General Certificate (No.: 00109476/293242) 2011

Korean Industrial Safety Engineer (No.: 09203090024W) 2010

LEADERSHIP, OUTREACH & COMMUNITY SERVICE

Operating Officer, Korean-American Scientists and Engineers Association, Texas A&M University 2017-2018

Coordination Officer, Korean Student Association, Texas A&M University 2017-2018

Communication Officer, Texas A&M Human Factors and Ergonomics Society Student Chapter 2017-2018

Korean mask dance performer, Korean Language School and College Station ISD Summer School 2016, 2017

Departmental Representative, Texas A&M Energy Research Society 2016-2017

President, Hyundai Heavy Industries English Conversation Club 2010-2014

President, Korean Student Association, Pittsburg State University 2007

President, Seoul Pine Tree Club (Intercollegiate English Conversation Club) 2004

Sergeant, Brigade 103, Republic of Korean Army 2001-2003

- Led an infantry squad of 10 soldiers
- Developed operating procedures and provided training to Army Reserves

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(Last updated: October 2020)