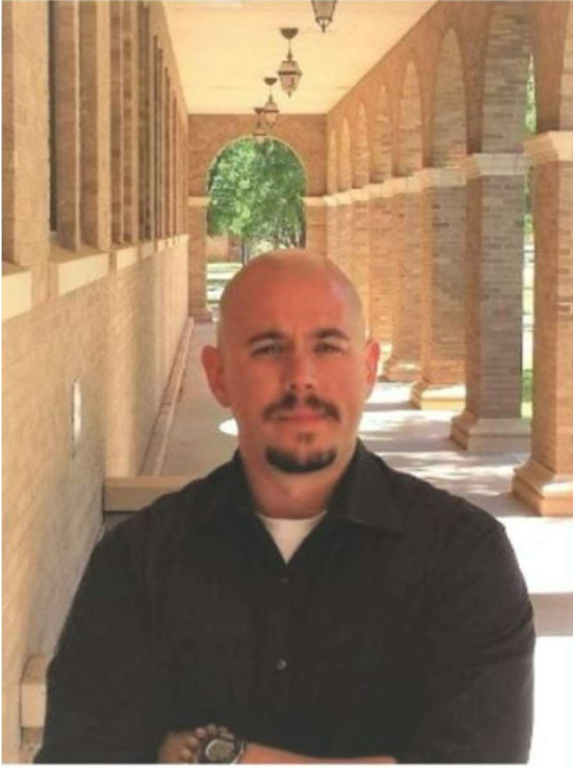


Student Spotlight

Richard A. Burgess Journey from Philosophy to Engineering



Meet Richard Burgess, a Ph.D. student at Texas Tech University's Department of Industrial, Manufacturing, and Systems Engineering (TTUIMSE). Richard's remarkable journey, transitioning from philosophy to engineering, has paved the way for groundbreaking research poised to revolutionize water resource management. Richard's academic journey led him to a Bachelor's and Master of Philosophy from Utah State University and Texas Tech University. However, his path took an unexpected turn when he joined the Murdough Center for Engineering Professionalism at Texas Tech. This intersection of philosophy and engineering ethics ignited a newfound passion for engineering.

Guided by Dr. Bill Marcy, a mentor and IMSE academy member, Richard's interest in complex systems found a perfect home in the Systems and Engineering Management (SYEM) program within IMSE. This fusion of disciplines allowed him to blend philosophy and engineering, creating a unique approach to problem-solving. His doctoral research revolves around strategic resilience planning for water resource systems in arid and semi-arid regions. Collaborating with esteemed TTU faculty members like Dr. Cliff Fedler, Dr. Annette Hernandez-Uddameri, Dr. Ken Rainwater, and Dr. Venkatesh Uddameri, he delves deep into the intricacies of water resources. His work not only tackles practical challenges but also delves into the ethical dimensions of water management and resource allocation.

Richard noted that the IMSE Department at Texas Tech, known for its distinguished faculty and nurturing environment, has played an indispensable role in his academic goals. Richard shared, "I can say that we have excellent faculty members here at the IMSE. I am grateful for the opportunity I have to learn from professors who are highly accomplished and yet very accessible." Guided by his faculty advisor, Dr. Mario Beruvides and his dissertation committee, as well as bolstered by his fellow researchers' camaraderie, he's making strides toward his goals. His long-term goal is to continue on as a researcher in an academic environment. Richard's dedication to unraveling the complexities of water inspires others and continues to drive curiosity and the quest for knowledge here at the IMSE.

Gabriel Cacao Ph.D Student Receives Young Leadership Award



We offer our congratulations to Gabriel Cacao, Ph.D. student, on receiving the Young Leadership Award at the prestigious Internet 2.0 Conference held in Las Vegas! It is wonderful to witness his outstanding contributions and unwavering commitment to the technology industry being recognized in such a significant way. Cacao serves as a prominent member of the Informs Student Chapter. He consistently demonstrates innovative ideas and thoughtful leadership. This recognition serves as a testament to his dedication and expertise in the field. Upon receiving the award, Cacao shared his gratitude, saying, "I am immensely grateful to the Internet 2.0 community for this recognition and for providing a platform to showcase innovative ideas and thought leadership. Excited for what the future holds!" This achievement highlights not only his accomplishments but also the collaborative and supportive environment fostered by the Internet 2.0 Conference. It is a space where professionals can connect, share insights, and inspire one another.

Austin Vaughn in Revolutionizing Human Factors Engineering



We Austin Vaughn, a Ph.D. student at Texas Tech University's Department of Industrial, Manufacturing, and Systems Engineering, is revolutionizing human factors engineering. Combining his expertise in Human Factors Psychology with a passion for improving healthcare interactions, Vaughn strives to enhance hospital systems and optimize the safety of service workers.

His journey began at Embry-Riddle Aeronautical University, where he discovered Human Factors Psychology and transferred to the program. Collaborating on a government-funded research project accelerated his career, culminating in a presentation at a prestigious conference. Vaughn's desire to reduce stress and danger in public service roles drives his research, focusing on robotics and emergency response situations.

He currently leads a project on electronic health records and co-leads another on pre-response information in firefighting operations. Vaughn's day involves recruitment, interviews, and researching the latest advancements. He envisions starting a medical consultancy company and teaching at an academic institution to inspire others. With interdisciplinary knowledge, Vaughn is poised to bridge the gap between engineering and healthcare, positively impacting patients and professionals.

Colton Mikes Student Spotlight Working Towards Success



Colton Mikes, a driven Ph.D. candidate at Texas Tech University's Department of Industrial, Manufacturing, and Systems Engineering (IMSE), specializes in quantum computing and mathematical optimization. As a native Texan, Colton's diverse experiences within the state fueled his passion for research, leading him to pursue advanced studies at IMSE. With a strong mathematics background, including a Bachelor's and Master's degree from Texas Tech University, Colton's research journey was sparked by a perceptive biology professor who recognized his exceptional potential.

Colton's research focuses on quantum computing and its applications in mathematical optimization. During his Master's program, he studied numerical analysis under Dr. Howle, now his co-advisor, and embarked on an independent study that deepened his fascination with quantum computing's potential in derivative-free optimization.

Currently, Colton is actively exploring how quantum computers can revolutionize derivative-free optimization algorithms, aiming to reduce computational costs. Collaborating closely with his advisors, he recently submitted a groundbreaking paper introducing a novel quantum algorithm that enhances generalized pattern research methods. Additionally, he has contributed to the development of quantum algorithms for direct multi-search, expanding on existing search methods. Through his cutting-edge research, Colton showcases the unique advantages of quantum computing in multi-objective optimization and presents strategies to mitigate computational costs associated with derivative-free algorithms.

Despite personal hardships, including the loss of his father to cancer and the unexpected passing of his faculty advisor, Dr. Ismael de-Farias Jr., Colton perseveres in his Ph.D. studies. He acknowledges the grieving process's challenges but remains determined and unwavering in his commitment to his research goals. After graduating in the summer of 2023, he plans to pursue a career in industry research, recognizing the Ph.D. as effective training for advanced research roles. Colton encourages aspiring professionals in the engineering fields to consider the exceptional opportunities offered by the TTU IMSE department.

Madison Smith receives Harold and Inge Marcus Scholarship



We are thrilled to announce that IMSE student Madison Smith has been awarded the Institute of Industrial and Systems Engineers prestigious Harold and Inge Marcus Scholarship for her exceptional work in the field of industrial and systems engineering!

Madison's outstanding academic performance and her contributions to the development of the industrial and systems engineering profession have earned her this highly coveted award. We couldn't be prouder of her achievements, and we are confident that she will continue to make significant contributions to this field.

Madison's dedication and hard work are truly inspiring, and she serves as a shining example of what is possible when you combine passion with excellence. Her commitment to advancing the future of industrial and systems engineering is commendable, and we know that she has a bright future ahead of her. Well done Red Raider!!!

Asif Amed receives the Marvin Mundel Memorial Scholarship



Asif Ahmed, a dedicated student here at TTU IMSE has been awarded the prestigious Marvin Mundel Memorial scholarship for the 2022-2023 school year. The scholarship, presented by the Institute of Industrial and Systems Engineers is awarded to students who present exceptional academic performance, leadership skills, and a passion for the ISE profession.

Asif Ahmed is a shining example of the excellence and dedication that IISE seeks to promote in the ISE profession. We look forward to seeing all that he will achieve in the future. Congratulations, Asif, on this well-deserved recognition!

Arthur and Grace Win the Simio Software Simulation Competition



TTU IMSE B.S. students Arthur Antunes and Grace Lenhart won the Simio Software Simulation Competition's 3rd place award in December of 2022. They were one of the teams in Dr. Dongping Du's TTU IMSE class titled IE4316 -Simulation Models for Operations Analysis. As a partial requirement of the course, students formed teams to develop simulation models for real-world applications. The work completed by Antunes and Lenhart was chosen for submission. The Simo competition is an international competition with 434 teams entering for a total of 1,319 students participating from 24 schools in 11 countries.

Congratulations to one of our outstanding TTU IMSE Ph.D. students, Dongzhe Zhang, for receiving the Paul Whitfield Horn Distinguished Professors Award at Texas Tech University.



Only 4 winners are awarded across the entire university. We are very proud to recognize Dongzhe's intensive research regarding laser additive manufacturing of shape memory materials, as well as 9 published journal articles and 6 conference papers. Dongzhe Zhang is an exceptional scholar cultivated here at Texas Tech IMSE. Way to Go Red Raider!