UNIVERSITY OF DENVER | Daniel Felix Ritchie School of Engineering & Computer Science

GRADUATION AWARDS & RECEPTION

Friday, June 9, 2023

June Swaner Gates Hall
Robert and Judi Newman Center for the Performing Arts

2023

Daniel Felix Ritchie School
of Engineering & Computer Science
UNIVERSITY OF DENVER

PROGRAM

WELCOME AND OPENING REMARKS
Dean Michelle Sabick, Ph.D.

STUDENT REFLECTION
Federico De Zabala

RITCHIE SCHOOL AWARDS
Dean Michelle Sabick, Ph.D.
Breigh Roszelle, Ph.D.
Matthew McDale
Chris GauthierDickey, Ph.D.
David Gao, Ph.D.
Peter Laz, Ph.D.

DOCTORAL HOODING RECOGNITION
Dean Michelle Sabick, Ph.D.
David Gao, Ph.D.
Rui Fan, Ph.D.
Maciej Kumosa, Ph.D

TAU BETA PI RECOGNITION
Dean Michelle Sabick, Ph.D.

ORDER OF THE ENGINEER
Peter Laz, Ph.D.

PLEDGE OF THE COMPUTING PROFESSIONAL
Chris GauthierDickey, Ph.D.

CLOSING REMARKS
Dean Michelle Sabick, Ph.D.

RITCHIE SCHOOL AWARDS

Faculty Teacher of the Year	The Faculty Teacher of the Year Award is given to a tenured or tenure track faculty member, lecturer, or adjunct recognized by students and colleagues for excellence in teaching and incorporating innovative teaching methods to improve the learning experience of undergraduate and/or graduate students.
Faculty Scholar of the Year	The Faculty Scholar of the Year Award is given to a Ritchie School faculty researcher recognized by the Ritchie School community for creative work that has been impactful and enhanced the reputation of the school for scholarly activity.
Staff Member of the Year	The Staff Member of the Year Award is given to a staff member for work done beyond job requirements to improve the work environment and the general culture of the Ritchie School.
Graduate Student Scholar of the Year	The Graduate Student Scholar of the Year Award is given to an active Ritchie School graduate student for excellence in both the quality and productivity of research with an emphasis on publications and breakthrough research.
Citizen of the Year	The Citizen of the Year Award is given to a faculty member, graduating student, staff member, or alumnus for going above and beyond to enhance the perception and image of the Ritchie School to DU and to the greater community through community service, university committee work, and/or volunteer work.
Graduate Teaching Assistant of the Year (Engineering)	The Graduate Teaching Assistant of the Year (Engineering) Award is given to an active Ritchie School graduate teaching assistant for excellence in fostering a strong learning environment and going beyond the general job requirements to improve the classroom teaching environment.
Graduate Teaching Assistant of the Year (Computer Science)	The Graduate Teaching Assistant of the Year (Computer Science) Award is given to an active Ritchie School graduate teaching assistant for excellence in fostering a strong learning environment and going beyond the general job requirements to improve the classroom teaching environment.
Undergraduate Student Scholar of the Year	The Undergraduate Student Scholar of the Year Award is given to an active Ritchie School undergraduate student for excellence in both the quality and productivity of research.

RITCHIE SCHOOL AWARDS

Colorado Engineering Council	Each year, three engineering students are nominated for the Colorado Engineering Council Silver Medal Award, one of the highest honors an engineering student at the University of Denver can receive.
KEEN Entrepreneurial Mindset of the Year	The KEEN Entrepreneurial Mindset of the Year Award is given to an engineering or computer science student demonstrating a passion for Innovation and the Entrepreneurial Mindset.
Student Service	The Student Service Award is given to a graduating undergraduate or graduate student who has worked to impact the student experience at the Ritchie School.
Departmental Awards	The Mechanical and Materials Science Engineering Department, the Electrical and Computer Engineering Department, and the Computer Science Department present awards each year.
Excellence in JEDI	The Excellence in Justice, Equity, Diversity, and Inclusion (JEDI) Award is given to a member of the Ritchie School community for advancing our efforts to the school culturally diverse and reflective of inclusive excellence.
Industry Advisory Council Senior Design Project Award	The Industry Advisory Council Senior Design Project Award is given to the Senior Design team that best displayed professionalism during the poster session, demonstrated the impact a project could make on society, and explored the effective application of engineering technical knowledge.
Dean's Award	The Dean's Award recognize someone who did something special, but the recognition of their accomplishments do not fit into an award category.

DOCTORAL HOODING RECOGNITION

The Doctoral Hooding Recognition is a special acknowledgment for students receiving doctoral degrees. During the event, a faculty member speaks about the doctoral candidate's work and accomplishments, then places the doctoral hood over the head of the graduate, signifying the student's success in completing the doctoral program.

The following four doctoral candidates have selected to participate in this year's Doctoral Hooding Recognition:

Abdullah Alharbi

Dissertation: *Sizing and Management of BESS for Grid Application*

Advisor: David Gao, Ph.D.

Hooding Faculty: David Gao, Ph.D.

Abdullah Alsheibi

Dissertation: *Unsupervised Learning Algorithm for Noise Suppression and Speech Enhancement Applications*

Advisor: Kimon Valavanis, Ph. D.

Hooding Faculty: David Gao, Ph.D.

Wei Gao

Dissertation: *Power System Dynamic Control and Performance Improvement Based on Reinforcement Learning*

Advisor: Rui Fan, Ph.D.

Hooding Faculty: Rui Fan, Ph. D.

Jide Williams

Dissertation: *The Modernization of Large Power Transformer Tanks*

Advisor: Maciej Kumosa, Ph.D.

Hooding Faculty: Maciej Kumosa, Ph. D.

TAU BETA PI RECOGNITION

Tau Beta Pi is the oldest engineering honor society and the second oldest collegiate honor society in the United States. It honors engineering students who have shown a history of academic achievement as well as a commitment to personal and professional integrity.

Faculty Advisor: ***Matthew Gordon, Ph.D.***

Ameen Al Shaibani
Kyle Bucholtz
Gabriel Davis
Kolton Lee
Ian Mattox
Patrick Miller
Tom Mullin
Shweta Raje
Benjamin Schwartz
Darius Soo Hoo
Carter Sorensen
Federico De Zabala

"Upholding devotion to the Standards and Dignity of the Engineering Profession"

The Order of the Engineer was initiated in the United States to foster a spirit of pride and responsibility in the engineering profession, to bridge the gap between training and experience, and to present to the public a visible symbol identifying the engineer. The Engineer's Ring in the United States is a stainless-steel ring, worn on the fifth finger of the working hand by engineers who have accepted the Obligation of an Engineer in a Ring Ceremony.

Obligation

I am an Engineer. In my profession, I take deep pride. To it, I owe solemn obligations.

As an Engineer, I pledge to practice integrity and fair dealing, tolerance and respect, and to uphold devotion to the standards and the dignity of my profession, conscious always that my skill carries with it the obligation to serve humanity by making the best use of Earth's precious wealth.

As an Engineer, I shall participate in none but honest enterprises. When needed, my skill and knowledge shall be given without reservation for the public good. In the performance of duty and in fidelity to my profession, I shall give the utmost.

PLEDGE OF THE COMPUTING PROFESSIONAL

"Intended to promote and recognize the ethical and moral behavior of graduates of computing-related degree programs as they transition to careers of service to society."

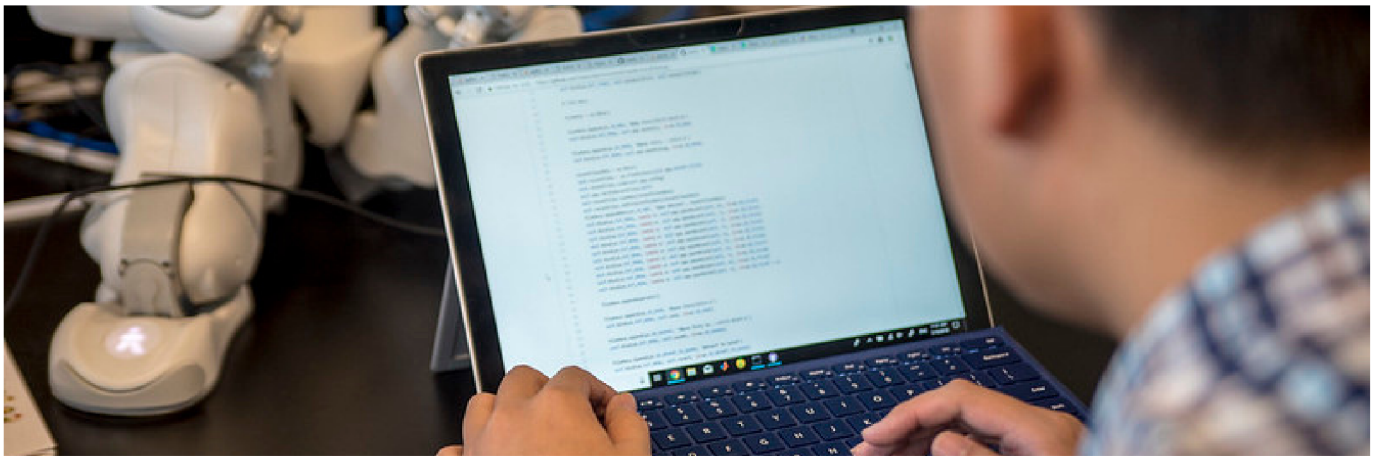
The Pledge of the Computing Professional is an organization to promote the notion of computing as a recognized profession at the time of graduation for students in Computer Science and related programs. The Pledge is modeled after the Order of the Engineer – a long-standing rite-of-passage for graduates from engineering programs.

Oath

I am a Computing Professional. My work as a Computing Professional affects people's lives, both now and into the future. As a result, I bear moral and ethical responsibilities to society.

As a Computing Professional, I pledge to practice my profession with the highest level of integrity and competence. I shall always use my skills for the public good. I shall be honest about my limitations, continuously seeking to improve my skills through life-long learning.

I shall engage only in honorable and upstanding endeavors. By my actions, I pledge to honor my chosen profession.



SPECIAL PROJECTS

2022-2023

ENGINEERING SENIOR DESIGN PROJECTS

Accessible Algebra
Team: Ameen Al Shaibani, Andrea Francis, Ian Mattox, Thorin Stormo
Sponsor: *Blind Institute of Technology*

In-Lab Alpine Simulator
Team: Kyle Bucholtz, Rick McIntyre, Tom Mullin, Darius Soo Hoo, Nate Sullivan, Peyton Weeter
Sponsor: *BOA Technology*

Adapted Guitar Chord Mechanism
Team: Will Howhannesian, William McCreedy, Patrick Miller, Garth Staniar
Sponsor: *Craig Hospital*

Drone Sensor Package for Remote Medical Triage
Team: Diego Daza Diaz, Adam Hangland, Jack Harwood, Cyrus Jumalon, Jack Thompson
Sponsor: *DeNOVO Solutions*

Non-Electric Negative Pressure Wound Therapy (NPWT) Device for Low Resource Contexts
Team: Gabriel Davis, Axel Garfio, Shweta Raje, Lucas Rininger, Rory Taylor
Sponsor: *Design Outreach*

Game Changin' Controllers
Team: Nathan Cauwet, Diego Esparza, Ryan Farrell, Jimmy McGlynn
Sponsor: *ICEBOX*

Augmenting the Human Workforce with ATOM, an Autonomous Material Delivery System
Team: Brooks Carrico, Federico De Zabala, Kolton Lee, Ben Schwartz, Carter Sorensen, Xavier Zuvekas
Sponsor: *Lockheed Martin*

COMPUTER SCIENCE GRADUATE SYMPOSIUM PROJECTS

Transforming a Chaotic Privacy Policy into a Knowledge Graph
Andrick Adhikari
Advisors: *Sanchari Das, Ph.D. & Rinku Dewri, Ph.D.*

AWS Architectures for Real-Time PII Scanning in Log Messages
John David
Advisor: *Rinku Dewri, Ph.D.*

Exploring Augmented Reality Robot Design
Ben Dossett
Advisors: *Kerstin Haring, Ph.D. & Daniel Pittman, Ph.D.*

An Investigation into Machine Learning Techniques for Designing Dynamic Difficulty Agents in Real-Time Games
Ryan Dunagan
Advisors: *Kerstin Haring, Ph.D. & Stephen Hutt, Ph.D.*

Terrain and Adversary-Aware Autonomous Robot Navigation
Aniekan Inyang
Advisor: *Christopher Reardon, Ph.D.*

Ensuring Security, Privacy, and Usability of E-Payment Applications for the Elderly Population: A Comparative Study of Interface Design and Authentication Mechanisms
Urvashi Kishnani
Advisor: *Sanchari Das, Ph.D.*

Impact of NLP Practices on an Autoethnographic Assessment of Incorporating DEI Practices in Engineering and Computer Science Classrooms
Alex Leto
Advisor: *Scott Leutenegger, Ph.D.*

Behavioral Tendencies of Neural Network Predictions in Power Consumption Anomaly Detection
Nidhi Madabhushi
Advisor: *Rinku Dewri, Ph.D.*

A Proposal to Study Shoulder-Surfing Resistant Authentication for Mixed Reality
Naheem Noah
Advisor: *Sanchari Das, Ph.D.*

Frequency Analysis of Bone Structure
Daniel Parada San Martin

Is Your Playlist Gender-Biased? Gender-Based Bias Mitigation Techniques in Algorithms for Music Recommender Systems
Sunny Shrestha
Advisor: *Sanchari Das, Ph.D.*

Investigating Privacy and Security Concerns of Older Adults in Telehealth Mental Healthcare Chatbots
Aishwarya Surani
Advisor: *Sanchari Das, Ph.D.*

Evaluating the Effectiveness of Graph and Timeline-based Visualization Techniques for Search Engine Results: A Comparative Study
Shahiq Quershi
Advisor: *Kerstin Haring, Ph.D.*

Privacy, Security, and Usability Tradeoffs of Telehealth from Practioners' Perspectives
Faiza Tazi
Advisor: *Sanchari Das, Ph.D.*

CLASS OF 2023

BACHELOR OF ARTS

Applied Computing

Tucker Butler
Jackson Gainer
Adam Scott Harrison
Rika C. Ruiz
Wenxuan Wang

Game Development

Gwen B. Boulet
Chris T. Rathel
Lydia Wandamo

BACHELOR OF SCIENCE

Computer Science

Nicolas Abelanet
Zac Kala'i Abero
Jenna Shawn Armstrong
Alouete Aryana Ascencio
Cade Lawrence Austin
Sam M. Belin
Anna May Block**
Michael A. Brodis
Zach Ian Lee Caylor
Kari N. Cobb
Max Leonard Conway
Gregory Alexander Dalla
Ryan R. Davidson
Jed Edward Downing
Kenny Martin Eddy
James Elofson
Connor J. Estelle
J.P. Evans
Angel Natalina Fernandes*
David Lee Foster
Ashton Rains Foster
Victor U. Francis
Matty Jolie Fultineer*
Meira Sophia Groth
Gavin George Hailey
YeChan Han
Jake Heimburger
Henry D. Jaffray
Liam Bryce Kerr-Atkinson
Kyla B. Lash
Dan John Laskarzewski
Yinan Liu
James Allan MacDougall
John Mann
Ana Mayordomo*
Brian Alexander McCulloch
John E. McGillivray
Coleter Vance Mount
Chris Grant Nodine
Allen James Oberweis
Aubrey Jennifer Patrick
Sean Armstrong Perman
Tony Pham
Brendan M. Pipta
Bridget Keely Poirier
Isys R. Powell
Cooper Ethan Rapp
Ben Alan Roueche
Janamejay Sharma
Enzo Ryan Sorano
Peter Robert Stamm*
Maya Renee Suehnholz
Michael Steven Sutherland
Jordan Christian Sutherland
Alex Tarpley
Maisey L. Toczek
Seigo Joseph Tomozawa
Sabrina Xiamei Towne*
Zachary Paul Vannett
David Nicholas Vincent
Ladarion D. Wells
Lauren O'Neil Wholey
Zach David Wilson
Kyle J. Wright

Game Development

Bobby Addison Breglio
Andy Davis Schiff

* indicates distinction
* indicates honors

The appearance of a student's name in this commencement program does not certify eligibility for graduation.

Computer Engineering

Ameen Mohammed Saeed Salah Al Shaibani*
Brooks Landaker Carrico
Nathan C. Cauwet
Federico De Zabala*
Ian Paul Mattox
Xavier Zuvekas

Electrical Engineering

Kyle Bucholtz*
Alison Cotter
Diego E. Esparza
Ryan Gene Farrell
Adam Joseph Hangland
Haibing Huang
Cyrus Jumalon
Rylan B. Shepard
John Severn Thompson

Mechanical Engineering

Andrew Roland Bell
James Gray Carpenter
Gabriel Thabo Davis
Diego A. Daza-Diaz
Andrea Lena Francis*
Axel Aaron Garfio-Pereyra
Matthew R. Gilliland
Jack Hoskins Harwood
Will J. Howhannesian
Holden Enslen Kilgore
Kolton P. Lee*
William Dale McCreedy
James Murphy McGlynn
Patrick Richard McIntyre
Patrick Wright Miller
Thomas Mullin
Shweta Raje
Lucas N. Rininger
Benjamin Jacob Schwartz
Darius Soo Hoo
Carter Sorensen*
Malcom W. Spiers
Garth Carter Staniar
Thorin J. Stormo
Nate Hamilton Sullivan
Rory Catherine Taylor
Peyton T. Weeter

* indicates distinction

MASTER OF SCIENCE

Bioengineering

Astitwa Raj Ghimire
Thesis: *Hemodynamic Assessment of Y-incision Aortic Root Enlargement using Computational Simulations*

Maya Kaul

Hannah Pierro
Thesis: *Changes in Balance with Brain Inflammation: Sensitivity in Dual Motor Mechanisms*

Computer Engineering

Richard Sun Chung

Behrouz Sohrabi
Thesis: *AI Applications in Electric Grid Modernization*

Computer Science

John R. David
Thesis: *AWS Architectures for Real-Time PII Scanning in Log Messages*

Ben Dossett
Thesis: *Exploring Augmented Reality Robot Design*

Ryan Adare Dunagan
Thesis: *An Investigation into Machine Learning Techniques for Designing Dynamic Difficulty Agents in Real-Time Games*

Jurgen Heinz Famula

Aniekan Inyang
Thesis: *Terrain and Adversary-Aware Autonomous Robot Navigation*

Urvashi Kishnani
Thesis: *Ensuring Security, Privacy, and Usability of E-Payment Applications for the Elderly Population: A Comparative Study of Interface Design and Authentication Mechanisms*

Alex Jean Leto
Thesis: *Impact of NLP Practices on an Autoethnographic Assessment of Incorporating DEI Practices in Engineering and Computer Science Classrooms*

Justin Martz

Daniel Alejando Parada San Martin
Thesis: *Frequency Analysis of Bone Structure*

Bridget Keely Poirier

Shahiq Quershi
Thesis: *An Investigation into Machine Learning Techniques for Designing Dynamic Difficulty Agents in Real-Time Games*

Matthew Sinclair Rennie

Aniekan Inyang
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Sunny Shrestha
Thesis: *Evaluating the Effectiveness of Graph and Timeline-based Visualization Techniques for Search Engine Results: A Comparative Study*

Alex Jean Leto
Thesis: *Is Your Playlist Gender-Biased? Gender-Based Bias Mitigation Techniques in Algorithms for Music Recommender Systems*

Aishwarya Surani
Thesis: *Investigating Privacy and Security Concerns of Older Adults in Telehealth Mental Healthcare Chatbots*

Kai Velagapudi

Cybersecurity

Amani Ahmed S Bawaked
Surya Teja Bhagavatula
Bradford Campbell Lowe
Juliet McLeod
Klaus A. Streicher
Supriya Thakur

Data Science

Osama A. Abdelrahman
Nick Joseph Ayala
Patrick Michael Ayers
Chris K. Bennett
Zoe P. Berling
Deb Blashill
Edwin Michael Bosch
Adi Bose
Colin R. Burnett
Anthony Cessna
Li-xue Chang
Zach Chase
Laura Brittany Contreras
Tanner David Coon
Leo Dueker
Sana Elbakry
Timothy Reaser Elliott
Marcelo Ellmann Clemente
Ethan Engel
Duncan Lockhart Ferguson
Eli Fischl
Michelle Leigh Garcia
Andrew Michael Graham
Tracy Green
Ted Guevel
Saswati Halder
Zane Hallauer
Eliza Halpin
Ariel Harris
Yusef Aslam Haswarey
Heather A. Higgins
Megan Dawn Hoeksema
Golam Imran
Michael Jara
David Jones
Arun T. Joseph
Ben David Karabinus
Simran Kota
Rob Kraemer
Calvin Kreusser
Matt Aaron Krzewinski
Cara Krantz Lachenmayer
Melissa Peng Lacro
Austin B. Laliberte
Sagar Lamsal
Zack Benjamin Larson
Dave Leigh
Heather Lemon
Erin Matheson
Brian McCabe
Cortland Rhea McHale
Ian McKellar
Isaac Xavier McPadden
Brian Stewart Miller
David Miranda
Luke M. Moore
Nicole Leann Pierick
Liam K. Pronovost
Jesse Prowett
Mohammad Wahidur Rahman
Carly Sabrina Raskin
Samantha Reno
Mike Bryan Santoro
Mike Schmidlin
Jonathen Smith
Kristoffer T. Sorensen
Kate A. Stadelman
Aaron Stopher
Kayla Strunk
Justin James Tice
Andy Kelly Tyler
Teresa Marie Vail
Christian L. Wagner
Winny Chenxue Wellington
Sean Wendlandt
Jonathan Yun
Tiffany Zhang

Electrical Engineering

Ali Sam Alrasheed

Luca W. Gacy
Thesis: *Design of Hybrid Inverters Using Wideband Gap Semiconductors for Microgrid Application*

Nick Adam Marquis

Chris N. Ramos

Ian Douglas Sinclair

Jordan Sinclair

Kun Yang
Thesis: *Deep Learning for Power Flow Estimation and High Impedance Fault*

Mohammad AMH Yousef

Materials Science

Zyed M. Ansary

Mechanical Engineering

Ola Alsaadi
Thesis: *Validation of Motion Capture System to Analyze Shoulder Kinematic*

Spencer Brewster
Thesis: *Design of Human Inspired Feet for Mithra, A High-Performance Humanoid Robot*

Samantha Collins
Thesis: *Kinematic Analysis of Gait and Deep Knee Flexion for Pre- and Post-Operative Total Knee Arthroplasty*

Ryan Xander Davis

Patrick Lukas

Samuel Mattei
Thesis: *Virtual Method for Establishing Stem Position in THA*

Vincent Nierste
Thesis: *Contact Simulation for Evaluating Patient Specific Surgical Guide Stability*

Ignacio Rivero Crespo
Thesis: *Finite Element Modeling of Patient-Specific Total Shoulder Arthroplasty*

Logan Rudstrom

Masod Sadipour
Thesis: *Fully Coupled Fluid Structure Interaction Simulation of Bioprosthetic Heart Valve*

Jesse Oliver Scrivner

Mina Shafiei
Thesis: *Pulmonary Valve Replacement*

Inniobong Inyang Tobby

Emma R. Young
Thesis: *Novel Approach for Non-Invasive Prediction of Body Shape and Habitus*

Jieyang Zhang

Mechatronics Systems Engineering

Dan Line-Bell

Will Edward Grace

Festus Obi

Mbidi Amambu Baptista Dos Santos
Thesis: *A Water-Surface Self-Leveling Landing Platform for Small-Scale UAVs*

Chris John Zamora

Systems Engineering

Michael Brusehaber
Kimberly Buchanan
Zachary Carpenter
Chris Collins
Grant Emrie
Justin David Garcia
Ariel Gebhardt
Roman Octavio Herrera
Megan Nicole Kannenberg
Connor King
Shane Michael Kirkley
Kwasi Kyeremeh Dapaah
James Richard Lithgow
Jameson Earl Mays
Bartholomew McFee
Eileen Mary McKinney
Sterling Peterson
Scott A. Tran
Nate David Voth
Zach Garrett Yinger

Computer Science

Zeinab Abdalla
Dissertation: *A unified Approach to Regression Testing for Mobile Apps*
Advisors: Anneliese Andrews, Ph.D. & Kerstin Haring, Ph.D.

Afnan Albahli
Dissertation: *Model-Based Testing of Smart Home Systems using EFSM, CEFSM, and FSMApp*
Advisor: Anneliese Andrews, Ph.D.

Electrical and Computer Engineering

Hojjat Abdollahi
Dissertation: *Artificial Emotional Intelligence in Socially Assistive Robots*
Advisor: Mohammad Mahoor, Ph.D.

Abdullah Muslih S Alharbi
Dissertation: *Sizing and Management of BESS for Grid Application*
Advisor: David Gao, Ph.D.

Abdullah Zaini Z Alsheibi
Dissertation: *Unsupervised Learning Algorithm for Noise Suppression and Speech Enhancement Applications*
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Wei Gao
Dissertation: *Power System Dynamic Control and Performance Improvement Based on Reinforcement Learning*
Advisor: Rui Fan, Ph.D.

Dongcheng He
Dissertation: *Reference Frames in Himan Sensory, Motor, and Cognitive Processing*
Advisor: Haluk Ogmen, Ph.D.

Mechanical Engineering

Xiang Chen
Dissertation: *An Investigation into the Plate Fixation for Periprosthetic Femoral Fractures*
Advisor: Paul Rullkoetter, Ph.D.

William A. Grell
Dissertation: *Effects of Oxygen, Orientation, and Post-Processing on Fatigue and Fracture of Additively Manufactured Ti-6Al-4V*
Advisor: Maciej Kumosa, Ph.D.

Ahilan Anantha Krishnan
Dissertation: Computational Methodology for Generating Patient-Specific Soft Tissue Representations
Advisor: Chadd Clary, Ph.D.

Matthew Reil
Dissertation: *Effect of Oxidation of Graphene on Agglomeration and the Mechanical Properties of Thermosetting Resins*
Advisor: Maciej Kumosa, Ph.D.

Mohsen Sharifi Renani
Dissertation: *Patient Movement Monitoring Based on IMU and Deep Learning*
Advisor: Chadd Clary, Ph.D.

Joseph-Shaahu Shaahu
Dissertation: Coupling Numerical Analysis of Vibration and Thermal Buckling of an Automotive Brake Disc
Advisor: Yun-Bo Yi, Ph.D.

Jide Olufemi Williams
Dissertation: *The Modernization of Large Power Transformer Tanks*
Advisor: Maciej Kumosa, Ph.D.

For more information, visit ritchieschool.du.edu

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