

School of Engineering and Applied Sciences

Senior Capstone Presentations

Friday, April 25, 2025

9:00am to 3:00pm

COMPUTER SCIENCE

9:00am – 12:15pm - Computer Science – A09

Poster Session 1:00pm-2:00pm

ENGINEERING

9:00am-10:00am - Civil Engineering – A06

10:00am – 11:20am - Electrical Engineering – A06

11:20am-11:40am - Computer Engineering – A06

11:40am-12:10pm - Biomedical Engineering – A06

12:00noon – 1:00pm Lunch – A09A

Poster Session

1:00pm – 3:30pm - Mechanical Engineering – A06

9:00am – 12:15pm - Computer Science – A09

COMPUTER SCIENCE			
Time	Program	Team Members	Project Title
9:00am-9:15am	CSIT	Jordan Williams & Sajad Babazadeh	Urban Treasures Mobile App
9:20am-9:35am	CSIT	Quan Huynh	Productivity Management Website - Zentask
9:40am-9:55am	CSIT	Parvez Ovi	A Website for Personal Task Management
10:00am-10:15am	CSIT	Justin Beatty	Machine Learning and Sport Betting
10:20am-10:35am	CSIT	Ibrahim Abul-Malik	EIAA – Ethical Artificial Intelligence Application in Art
10:40am-10:55am	CSIT	Dagmawi Mulalem	AnatoAR: Anatomy Brought to Life with Augmented Reality
11:00am-11:15am	CSIT	Muse Tesfaye	AI-Powered Personalized Adaptive Studying Platform
11:20am-11:35am	CSIT	Hugh Smith	Retrieval Augmented Generation (RAG) for Resume Analysis
11:40am-11:55am	CSIT	Benedict Frimpong & Klevin Ifeji	DayPilot: Optimize your Time, Maximize your Life
12:00pm-12:15pm	CYSE	Raven Hollins & Jose Cruz	Zero Trust Architecture for IoT devices

Panel of Judges

- Dr. Thabet Kacem
- Dr. Dong Jeong
- Dr. Anteneh Girma
- Dr. Hanney Shaban

9:00am-10:00am - Civil Engineering – A06

CIVIL ENGINEERING	
Project Title	Planning and Design of Civil Engineering Systems for the Horizon Commons Sub-division
Students	David Lapidus, Adrian Mutta, Willian Rodriguez, Denis Portillo
Advisors	Dr. Pradeep Behera, Consultants: Drs. B. Higgs, H. Azam, U. Patil and G. Ozkula
Project Abstract	The civil engineering senior project involves two projects: (i) Small Site Development, (ii) Large Site Development -Planning and design of civil engineering systems for the 27 acres land development which include understanding the clients need, complexity of the problem, regulation requirements, planning, analysis, and design. The project develops alternative layout designs of the sub-division and selection of best layout that must include single family & multi-family residences, multi-storied office building, commercial area, and parking. The specific design components included structural design of a multi-storied building including foundation design, stormwater management of the proposed lay out, storm sewer system design, sanitary sewer system design and water supply system design and design of transportation system for the sub-division, planning and scheduling, environmental engineering and sustainability.

10:00am – 11:20am - Electrical Engineering – A06

ELECTRICAL ENGINEERING		
10:00 - 10:20 AM	Project Title	Radio Frequency Energy Harvesting for Wireless and Remote Sensory Monitoring
	Student	Ervin Graddick
	Advisors	Dr. Esther Ososanya and Behjat Forouzandeh
10:20 - 10:40 AM	Project Title	Embedded System Development using FPGA
	Student	Paul Wilson
	Advisors	Drs. Esther Ososanya and Wagdy Mahmoud
10:40 - 11:00 AM	Project Title	Online Battery Power Monitoring System: Energy Monitoring Through Cloud Services
	Student	Kevin Leatham
	Advisors	Drs. Esther Ososanya and Harish Panth
11:00 - 11:20 AM	Project Title	Wave Share Robotic
	Students	Temeche Sisaye
	Advisors	Drs. Esther Ososanya and Harish Panth

11:20am – 11:40am – Computer Engineering – A06

COMPUTER ENGINEERING		
11:20 – 11:40AM	Project Title	Software/Hardware implementation of advanced object Detection algorithms in Still Images
	Students	Keicha' Barnes and Inner Jimenez
	Advisors	Dr. Wagdy H. Mahmoud
	Sponsor	Advanced Physics laboratory at the University of Washington.

11:40am-12:10pm - Biomedical Engineering – A06

BIOMEDICAL ENGINEERING	
Project Title	Soft Robotic Ventricular Assist Device
Project Members	Bushira Musa
Advisor	Dr. Max Denis

1:00pm – 3:30pm - Mechanical Engineering – A06

MECHANICAL ENGINEERING	
Project Title	Platform Perturbation Device- A Reactive Balance Diagnostic and Training System
Project Members	Elias Rush, Md Islam, Michael Bennet
Advisor	Dr. Alex Peebles
Sponsor	DC Space Grant Consortium
Project Title	Indented Solar Thermal Air Heater
Project Members	Claudia Bahamon Lopez, Saqlain Webster, Danielle Thompson
Advisor	Dr. Pawan Tyagi
Project Title	Design and Assembly of an Experimental Apparatus for the Calorimetric Measurement for Emissivity
Project Members	Dylan Donaldson, David Ferrufino
Advisors	Dr. Jiajun Xu and Dr. Xiao Zhang
Sponsor	NASA MUREP Institutional Research Opportunity Grant under Cooperative Agreement #80NSSC19M0196 and MCA award under Grant Number 80NSSC23M0198
Project Title	Experimental Evaluation of Aerosol Jet-Printed Electrostatic Arrays for Lunar Dust Removal
Project Members	Yasameen Popal, Patrick Ngako and Cheick Dore
Advisors	Dr. Jiajun Xu and Dr. Xiao Zhang
Sponsor	NASA MUREP Institutional Research Opportunity Grant under Cooperative Agreement #80NSSC19M0196 and MCA award under Grant Number 80NSSC23M0198

Senior Capstone Projects represent the culmination of the educational experience, integrating the classroom with real world problems. The students handle open-ended engineering and computational problems whose solutions require a synthesis of engineering knowledge, computational analysis, creativity, market needs, safety and esthetics. Projects are supervised by instructors and industry mentors.

Panel of Judges

Representatives from Civil Engineering, Electrical and Computer Engineering, Mechanical Engineering, Computer Science departments faculty and External Advisory Board members.

Acknowledgements

Pablo Sanchez Guerrero

Hung Ha

Netra Simmons

Gebretensae Tzadu

