



Northeastern University

College of Engineering

The Thirty Seventh ECE Capstone Design Competition

Tuesday December 5, 2023, Ballroom (Curry Student Center)

- 7:30-8:30** **Judges Breakfast (335 Curry Student Center)**
- 8:30-8:45** **Welcome by Professor Bahram Shafai (Capstone Director),
Dean of COE Gregory Abowd, and Chair of ECE Department
Ken Duffy in Ballroom Curry Student Center**
- 8:45-9:00** **Autonomous Waste Collector (AWC)**
Ao Ruan, Aral Balsari, Ousmane Toure, Jianning Chen, Yide Song, Yizi Wang
- 9:00-9:15** **SummitSignal**
Gabe Peralta, Cameron Gordon, Justin Kawakami, Sean Vumbaco, Ryan Lonkart, Elise Cooke
- 9:15-9:30** **DAMIT: Drone Attachment to Measure Ice Thickness**
Marcus Albertson, Stepan Kapreillian, Carrie Patterson, Alek Tunik, Diego Valdivia, Jack Zakian
- 9:30-9:45** **Air Quality Unit for Interactive Logging and Observation
(A.Q.U.I.L.O)**
Drew Balfour, Jack Duggan, Manas Mahajan, Ben Thacher, Eli Wiel, Erik Zilber
- 9:45-10:00** **Hydrilla Hunter**
Lisa Byrne, Arjun Fulp, Jvalanti Prasad, Rohit Josyula, Colin McKissick, Darsh Jha
- 10:00-10:15** **Short Break**
- 10:15-10:30** **E-Mobility Charging**
Alexander Zabib, Ali Hussein, Ezekiel Gunnison, Grady Kirsch, Michael Montanaro, Valentina Ribeiro
- 10:30-10:45** **SPEAK: An Innovative Wireless Chording Peripheral for Real-Time
Vocal Communication**
Conner Ellis, Dan Pitsch, John Rodrigues, Thomas Colao, Kontantin Vasilyev, Andre Danahy
- 10:45-11:00** **Project Limelight: Modern Live Lightshow Depiction for Arbitrary Audio**
Isaac Kaper, Abdulla Alshehhi, Bradley Perritt, Nelson Barnes, and Smit Patel
- 11:00-11:15** **Garden Robot for Overseeing Water Treatment in Hydroponics
(GROWTH)**
Tasmiha Amir, Susan Badanai, Rida Jawed, Tracy Qiu, Adam Reed, David Savoie
- 11:15-11:30** **Smart Hydroponic Countertop Garden**
Devon Holdgate, Sam Sheehan, Priya Khadilkar, George Hagopian, Joseph Pak
- 11:30-11:45** **Announcement**
- 11:45-1:15** **Lunch Break (McLeod Suites, 3rd Floor of Curry Student Center)**

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- 1:15-1:30** **EMAK: Emergency Medical Assessment Kit**
Siddharth Simon, Michael Delaney, Nicholas Balog, Casey Holden, and Sean Persaud
- 1:30-1:45** **Sound Floats: A Low-Cost Acoustic Release**
Isabelle Brandicourt, Max Brotman, Charlie Daigle, Luis Soto, Joshua Cheng, Evan Tran
- 1:45-2:00** **MoCAP: Method of Capturing Anatomical Position**
Katherine Cloutier, Christian Cole, Matthew Low, Noah Mitchell, Zachary Spiegel
- 2:00-2:15** **The Dojo: Intelligent Arcade Controller**
Nalin Storm, Viraj Lawande, Tyler Jackson, Yiqi Dou, Kevin Fu, Femi Lamptey
- 2:15-2:30** **Short Break**
- 2:30-2:45** **Distant Duels**
Lulwa Alghanim, Sarah Moyer, Kai Johnson, Katie Nikolov, Aidan Di Salvo, and Alejandro Manuel Campa
- 2:45-3:00** **Object Detection Visual Assistant (ODVA)**
Rose Hensley, Mei Lin Mulvey, Aditi Purandare, Samantha Wong, Min Jung You, Jeffrey Zhang
- 3:00-3:15** **TouchTyper**
Nathaniel Dorson, Aidan Dougherty, Timothy Frieden, Nicholas Gale, Christopher Lackowski, Steven Scangas
- 3:15-3:30** **Piano Pedal Accessibility Device (PPAD)**
Luke Wisner, Roberto Chadwick, Lucas Laya Marina, Hanchen Liu, Josh Moffat, Tristan Siu
- 3:30-4:15** **Judges Deliberation**
- 4:15-4:30** **Award Announcement**
- 4:30-4:45** **Pictures with the Judges**
- 4:45-5:00** **End of Program 5:00 PM.**