

DREAM TEAM ENGINEERING

SPONSORSHIP PACKET

DREAM TEAM ENGINEERING AT THE UNIVERSITY OF FLORIDA

2024
-
2025



ABOUT US

Dream Team Engineering is a student-run 501(c)(3) non-profit organization that gives undergraduate students the opportunity to develop medical devices and host events that improve the patient experience and aid medical students' education. Our team consists of three branches: a design branch focused on creating educational devices using 3D modeling, a software branch that develops applications for hospitals, and a research branch that evaluates the effectiveness of our projects.



DESIGN



- Dream Team Engineering's design branch consists of teams that focus on using 3D-modeling skills to create devices that can help with medical students' education.

SOFTWARE

Our software development division is focused on producing innovative technologies for Shands Hospital through a combination of web apps, mobile apps, VR games, and software-controlled hardware..



RESEARCH



Dream Team Engineering's Research Team tests the efficacy of DTE projects being used within the hospital using a combination of dry lab techniques, including data acquisition through patient surveys, professional writing, and statistical analysis.

Design Project Highlights

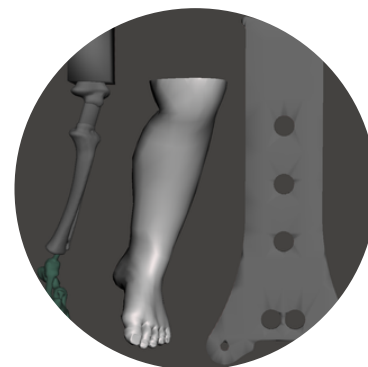
SURGICAL



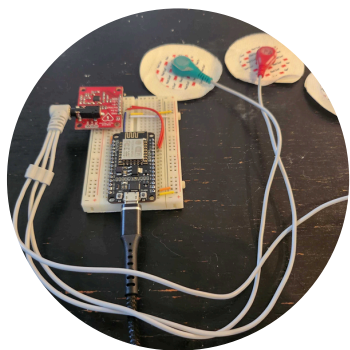
The Surgical team collaborates with the Shands General Surgery Department to create surgical models for residents to practice on. Using CAD and other technical skills, the team 3D prints and assembles the models. Current projects include modeling a cholecystectomy surgery and laparoscopic kidney transplant procedure. The team works closely with UF Health surgeons to create accurate models that will best help residents succeed when they enter the OR with a patient.

INFANTILE IV

The Infantile IV team collaborates with CSSALT (Center for Safety, Simulation & Advanced Learning Technologies) to develop a mixed reality trainer for practicing infant leg IV insertion. The trainer features a silicone rubber leg modeled from real infant scans and utilizes Unity for tracking needle position using an electromagnetic field. The project's aim is to boost medical students' confidence in the procedure prior to real-world practice.



CARDIOTHORACIC



The Cardiothoracic team, consisting of the Supraventricular Tachycardia (SVT), Lung Balloon Model (LBM), and Electrocardiogram (ECG) subteams, aims to create a wide range of models simulating heart and lung conditions for clinical and educational use. Currently, both the LBM and ECG models are being used in undergraduate physiology courses at UF, helping students comprehend these concepts more effectively.

Software Project Highlights

MILK BANK

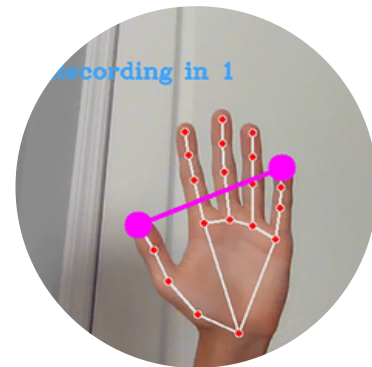


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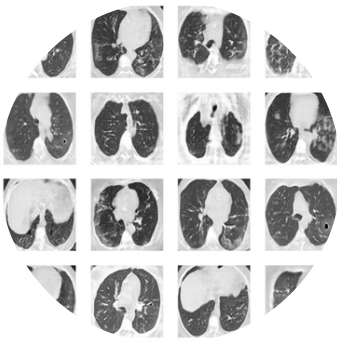
Dream Team Engineering worked alongside Mothers' Milkbank of Florida to develop a website that eases the breast milk donation process. Our website will replace and optimize manual calculation of breast milk nutrient combinations. Today, Florida Milk Bank is consistently using our web app and is advocating for its implementation in other milk banks across the country.

TRAIN OF FOUR

This project automates the Train of Four test, which is currently used for assessing anesthetic levels in patients. By combining computer vision with TensorFlow/Keras, the team quantifies hand movements after an electrical stimulus, standardizing data collection for anesthesiologists. The team presented this project at the Biomedical Engineering Society's annual conference in Seattle last year.



CT GAN



The CT GAN team focuses on leveraging Generative Adversarial Networks (GANs) to create synthetic lung CT images to augment pulmonary disease datasets. This project aims to boost the quality of medical imaging diagnostic tools by generating CT scan data that is often hard to access, especially for rare diseases. Overall, this project can help with addressing challenges related to small datasets

Research Project Highlights

CARDIOTHORACIC RESEARCH



The Cardiothoracic Research Team crafts detailed research protocols to rigorously test new designs and technologies created by the Cardiothoracic Design team. Their findings are crucial in determining the efficacy and safety of these innovations, which may include new surgical tools, procedures, or treatment methodologies. The results from these studies ensure that the most effective and reliable innovations move into clinical use.

MRI RESEARCH

The MRI Research Team is engaged in a Quality Improvement (QI) study that focuses on two primary interventions: the integration of 3D printed MRI environments with play therapy, and the use of Virtual Reality (VR) setups. The aim is to determine whether these approaches can effectively reduce the need for sedation in children undergoing MRI scans, thereby potentially increasing the feasibility and safety of MRI procedures in pediatric care.



SURGICAL EFFICACY RESEARCH



The Surgical Efficacy Research Team focuses on the assessment and validation of new surgical tools created by the Surgical Design team. Their research findings play a pivotal role in qualifying new surgical models for educational purposes, ensuring that surgical training programs incorporate the most up-to-date and empirically-supported tools and techniques.

ABOUT DESIGNATHON

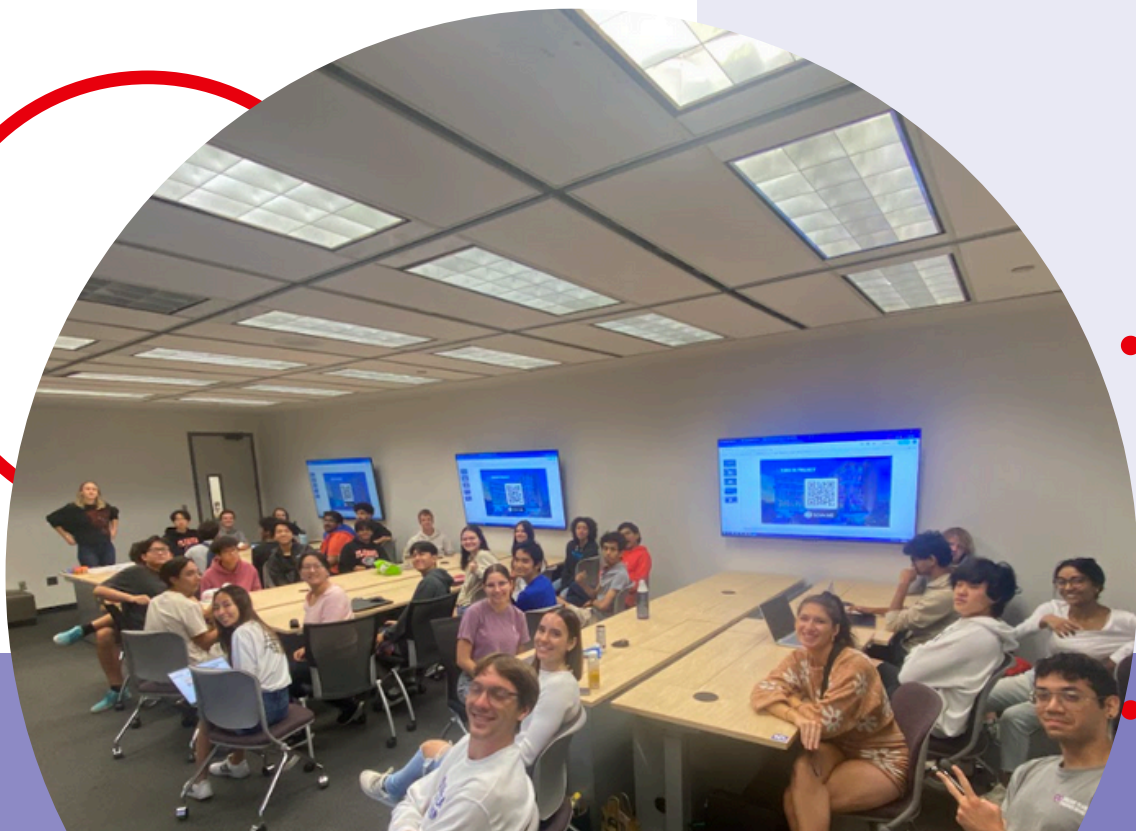
Designathon is an annual 24-hour event hosted by Dream Team Engineering in the Fall, where students across majors have the opportunity to create software or devices that improve patients' experience at UF Shands.

This event provides sponsors with a unique opportunity to not only gain visibility among DTE members, but engage with the wider UF STEM community.

2023 STATISTICS

110+
PARTICIPANTS

\$2100
RAISED



WHY SPONSOR US?

Any money donated to Dream Team Engineering will directly fund our ongoing projects. Our 2024-2025 budget is shown below for a breakdown of what the money will go toward.

2024-2025 BUDGET

CATEGORY	ESTIMATED BUDGET
RESEARCH	
NVivo 12	\$600.00
Publishing costs	\$3500.00
RESEARCH TOTAL	\$4,100.00
SOFTWARE	
APP PUBLISHING LICENSES	\$400.00
VR HEADSETS	\$800.00
OTHER HARDWARE AND ACCESSORIES	\$150.00
SOFTWARE TOTAL	\$1,350.00
DESIGN	
3D PRINTING FILAMENT	\$1000.00
CASTING MATERIALS	\$300.00
PAINT SUPPLIES	\$50.00
MECHANICAL MATERIALS	\$500.00
ASSEMBLY COMPONENTS	\$250.00
SOFTWARE (MIMICS SUITE, ETC)	\$2500.00
DESIGN TOTAL	\$4,600.00
DESIGNATHON	
VENUE	\$1300.00
PRIZES	\$2500.00
OTHER EVENT COSTS (advertising, food, etc.)	\$1150.00
DESIGNATHON TOTAL	\$4,950.00
GRAND TOTAL	\$15,000.00

SPONSOR BENEFITS

Dream Team Engineering is a 501(c)(3) non-profit organization full of highly motivated students. Without the support of our sponsors, we would not be able to fund our incredible projects or create connections with companies. Here are the levels of sponsorship and benefits!

Level	Bronze	Silver	Gold	Diamond
Dollars per semester	\$250	\$500	\$1000	\$1500+
Spot on DTE's website and merchandise				
Host a recruitment event (at Designathon or in general)				
Access to member resume bank				
Co-host a General Body Meeting				
Spot on DTE's industry advisory board				

PAYMENT INFORMATION

DREAM TEAM ENGINEERING IS A 501(c)(3) NON-PROFIT ORGANIZATION REGISTERED AT THE UNIVERSITY OF FLORIDA FOUNDATION. ALL DONATIONS MADE TO THE ORGANIZATION ARE TAX DEDUCTIBLE.

CHECKS CAN ALSO BE MADE OUT TO "DREAM TEAM ENGINEERING" AND MAILED TO THE ADDRESS:

Dream Team Engineering
655 Reitz Union Drive
GAINESVILLE, FL 32611-6131

If you have any questions, please do not hesitate to contact our Director of Sponsorship at sponsorships@dreamteameng.org

Thank you for helping to transform lives!

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