

Dominic P. Tanzillo

THIRD-YEAR MEDICAL STUDENT · DUKE UNIVERSITY SCHOOL OF MEDICINE

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Education

Duke University

MEDICAL DOCTORATE

- Third-year student leading several projects in the Departments of Pathology and Radiology.
- Pursuing a **Master's of Engineering in Artificial Intelligence** through internal Duke Scholarship.
- Armstrong Scholar** - pursuing medical humanities concentration.

Durham, NC

Aug 2022 - Present

Duke University

B.S. IN MATHEMATICS AND B.S. IN NEUROSCIENCE

- Cumulative **GPA of 3.96**.

Durham, NC

Aug 2016 - May 2021

Honors & Awards

DUKE AWARDS

Apr 2025 **Barr-Spach Scholarship for Engineering in Medicine**, Duke University School of Medicine

Apr 2024 **Donald B. Hackel Fellowship in Cardiovascular Pathology**, Duke University School of Medicine

Apr 2023 **Chancellor's Fellow**, Duke University School of Medicine

May 2020 **Phi Beta Kappa, Junior Inductee**, Duke University

2016-21 **Dean's List with Distinction and Dean's List**, Duke University, Every Semester

May 2019 **Summer Neuroscience Fellow**, Duke University

Durham, NC

Durham, NC

Durham, NC

Durham, NC

Durham, NC

Durham, NC

Courses, Publications & Active Grants

Duke University

Durham, NC

PROJECT CO-LEAD – **VR-HEAL**

Jul 2024 – present

- Directed a 20-member Bass Connections team to build advanced VR training modules for interventional radiology, integrating haptic feedback and real-time biometric data.
- Led interdisciplinary subteams across engineering, computer science, biomedical, and visual studies to design, test, and refine both hardware and software systems.
- Designed and executed research protocols to evaluate training efficacy, capture user feedback, and apply machine learning for performance analysis.
- Published peer-reviewed findings demonstrating VR training's impact on procedural understanding, skill acquisition, and educational outcomes, shaping new pathways in medical education.
- Earned first place at Duke's 2025 Fortain Foundations Showcase, recognized as the top research team.

Center for the Advancement of Science in Space and International Space Station

Houston, TX

PROJECT LEAD – SPACE MEDICINE DOCUMENTATION

Jul 2023 – present

- Secured over **\$80,000** in grant funding to develop new educational modules for [the Space Medicine Coursera](#) by 2027.
- Expanded course offerings to broaden access to space medicine, engaging under-represented groups and younger learners worldwide.
- Collaborated with astronauts in Houston by scripting, storyboarding, and preparing lectures for recording.

Course: Space Medicine

Durham, NC

DUKE UNIVERSITY COURSERA PLATFORM

Jul 2021 - Present

- Scripted, recorded, and directed a six-week video series on medicine in space, engaging more than **16,000 learners** worldwide.
- Developed learning assessments, managed guest lecturers, and ran live sessions for the **250+ students** in the first cohort, summer 2021.
- Opened course up to students outside of the Duke network [with Duke Learning Innovation](#) for anyone to be introduced to the field to better improve access to space medicine worldwide.

Paper: Stereotactic and Functional Neurosurgery

San Francisco, CA

CT AND MRI IMAGE FUSION ERROR: AN ANALYSIS OF CO-REGISTRATION ERROR

Feb 2021

- Second name author for quantifying the error in co-registration of two medical imaging formats.
- Collected data, ran statistical analysis, and verified the existence of a bias in the auto-merged function.
- Publication is available at: <https://doi.org/10.1159/000511114>

Recent Work & Research Experience

Spine Group, Duke Neuroradiology

Durham, NC

MEDICAL STUDENT RESEARCHER

Jan 2023 - present

- Received IRB approval to create and manage world's largest CSF Leak Disorder database using records of patient at Duke.
- Leading three undergraduate students to organize database while on clinical year.

Tietronix Software, Inc.

SOFTWARE DEVELOPER AND SYSTEMS ENGINEER

Houston, TX

Jun 2021 - Present

- Executed multidisciplinary projects across **NASA, Air Force, and hospitals** contracts to safeguard human health in extreme environments.
- Designed augmented reality workflows—including instructions and gesture controls—for autonomous deep space imaging and surgical procedures.
- Engineered communication maps linking Earth and orbital assets as a systems engineer for NASA's **Flight Operations Directorate for 2022-2028 launches.**
- Simulated human physiological responses to high-energy stimuli, advancing protective protocols for the US Armed Forces' Tri-Service Research Laboratory.
- Developed and deployed virtual reality training platforms used by astronauts, surgeons, and first responders to enhance procedural readiness reducing learning times by 30%.

Non-Profit Work

DukeCOMIDA

Durham, NC

Co-FOUNDER AND PRESIDENT

Apr 2023 – present

- Founded and lead a non-profit providing nutritional support to pregnant Hispanic women at risk for gestational diabetes, addressing health disparities in Durham.
- Secured over **\$30,000** in grant funding from the Chancellor's Office of the Medical School to expand program reach.
- Forged partnership between Duke University School of Medicine and The Durham Community Food Pantry, mobilizing 100+ new student volunteers.
- Serve in Food Pantry leadership to coordinate monthly mobile food distributions across the community.

Duke University School of Medicine: Student Faculty Show Musical

Durham, NC

PRODUCER AND TREASURER

Dec 2022 - Mar 2023

- Worked with departments and local companies to raised over **\$30,000 for Families Moving Forward.**
- Contributing to storyboard and script annual for school musical with brief cameo.

Students for the Exploration and Development of Space (SEDS)

National Non-Profit

CHAPTER EXPANSION MANAGER

Nov 2021 - Present

- Oversee the onboarding and development of new US-based chapters, with emphases on high school and HBCU recruitment.
- Started and chair fortnightly access meetings to ensure all students can find their voices in space.
- Negotiated deal with Bethesda Games to fund over **\$10,000** new initiatives to encourage access for minority students in space.

Public Engagement & Media Appearances

Duke Health Magnify

Durham, NC

"MEDICAL MYSTERY IN MICROGRAVITY"

Feb 2025

- Duke Health feature on studying the rise of blood clots in commercial astronauts.

TEDxDuke Talk

Durham, NC

"WHAT SPACE MEDICINE TAUGHT ME ABOUT SCIENCE COMMUNICATION"

Feb 2023

- Opening speaker at the 2023 TEDxDuke Conference
- Provided a talk bridging the gap between scientific research and outreach and engagement.

SEDS SpaceVision 2022 Invited Speaker

Chicago, IL

SPACE MEDICINE PANELIST

Nov 2022

- Invited speaker with travel paid at the largest undergraduate space-industry conference.
- Introduced undergraduates to field of aerospace medicine.

Spherical Cows Podcast

Houston, TX

CO-CREATOR AND HOST

Sep 2021 - Present

- Created, recorded, and edited two seasons of space medicine interview podcast.
- Currently releasing second season and recording third.
- Show debuted to Apple Podcast's Top 10 Science Podcast in first season.

Medical School Leadership

The Hippocratic Society

Duke University - Durham

FOUNDER AND PRESIDENT OF DUKE'S CHAPTERS

Feb 2023 - Present

- Founded Duke's Chapter of The Hippocratic Society, a group dedicated to medical ethics to improve curriculum for early career physicians.
- Wrote several articles on integrating the virtues into medical student life including one on [Innocence](#).
- Serving on public affairs committee for helping the group face public audiences including designing the logo.

Interventional Radiology Interest Group

EXECUTIVE BOARD MEMBER

- Helped recruit new students to the emerging field of interventional radiology.
- Co-sponsored events with the orthopedic surgery club to increase recruitment for more students.

Duke University - Durham, NC

Sep 2022 - Present