

# Dominic P. Tanzillo

THIRD-YEAR MEDICAL STUDENT · DUKE UNIVERSITY SCHOOL OF MEDICINE

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## Education

### Duke University

MEDICAL DOCTORATE

Durham, NC

Aug 2022 - Present

- 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.

### Duke University

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

Durham, NC

Aug 2016 - May 2021

- Cumulative **GPA of 3.96**.

## 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

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## 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.

Houston, TX

SOFTWARE DEVELOPER AND SYSTEMS ENGINEER

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 egagement.

### 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

*Duke University - Durham, NC*

*Sep 2022 - Present*

- 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.