

# Daniel Yao

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## Education

**Johns Hopkins University** Baltimore, MD  
M.S.E. Applied Mathematics and Statistics Expected May 2027

**Johns Hopkins University** Baltimore, MD  
B.S. Biomedical Engineering, B.S. Applied Mathematics and Statistics Expected May 2027  
4.00 GPA, 36 ACT, 1590 SAT, 528 MCAT  
Tau Beta Pi

## Coursework

[github.com/dyao13/CV/blob/main/yao\\_cv/yao\\_transcript.pdf](https://github.com/dyao13/CV/blob/main/yao_cv/yao_transcript.pdf)

## Abstracts

Hoffmann, J., Raghavan, S., Day, M., **Yao, D.**, Morrissey, M, Roy, S., Brown, K., Durr, N., Kudchadkar, S., Fackler, J., LaRosa, J. (2026). Continuous physiological monitoring reveals poor PRN sedation efficacy in pediatric critical care. Critical Care Congress. [Oral presentation, accepted]

Raghavan, S., Hoffmann, J., Day, M., Roy, S., Pejic, B., Morrissey, O., Moyer, C., **Yao, D.**, Brown, K., Durr, N., Kudchadkar, S., Fackler, J., LaRosa, J. (2026). Rethinking pediatric sedation assessment: a statistical evaluation of the State Behavioral Scale. Critical Care Congress. [Oral presentation, accepted]

Liu, S., Sargent C., Broman L., **Yao, D.** (2024). Role of CRF1 and CRF2 receptors in stress-induced increase in intestinal permeability in the mouse colon. Physiology 39(S1), 815. doi.org/10.1152/physiol.2024.39.S1.815.

## Experience

**Oberst Lab, Johns Hopkins University** Aug 2025 - Present

*Undergraduate Research Assistant*

- Write and be awarded \$3,000 Provost's Undergraduate Research Award
- Characterize active sampling estimators for machine learning evaluation and investigate heuristic sampling rules with Monte Carlo simulations in Python

**Johns Hopkins University** Aug 2024 - Present

*Teaching Assistant*

- Lead recitations and hold office hours for upper-level EN.553.420 Probability (FA24, SP25, FA25, SP26)
- Hold office hours for EN.601.226 Data Structures (FA25, SP26)

**iMEDS: Data Driven Sedation in the Pediatric ICU** Aug 2024 - Present

*Undergraduate Research Assistant*

- Co-write and be awarded \$50,000 Malone Seed Grant for interdisciplinary research in healthcare
- Compare sedation-agitation scores with vitals, accelerometry, and drug administrations to develop statistical models for pediatric sedation

**Clark Lab, Johns Hopkins University** Jan 2025 - Aug 2025

*Undergraduate Research Assistant*

- Designed reinforcement learning agent with deep Q-learning to regulate pressure-control ventilation in ARDS patients using Gymnasium and PyTorch to select optimal ventilation parameters with 97.5% accuracy
- Simulated pressure-volume loop with nonlinear circuit model using PSpice and Simulink to generate data for 17,280 combinations of parameters

**Susquehanna International Group**

Mar 2025

*Susquehanna Discovery Day*

- Shadowed and played strategy games with traders to learn about decisions, risk, and market making

**Liu Lab, University of Wisconsin-La Crosse**

Jun 2022 - Aug 2022

*Research Intern*

- Investigated the specific roles of CRF1 and CRF2 receptors in stress-induced increase in intestinal permeability
- Assayed transcellular and paracellular flux through mucosa/submucosa tissue taken ex vivo from mice

**Activities****Hopkins Undergraduate Society of Applied Mathematics**

Baltimore, MD

*Treasurer*

Aug 2025 - Present

**Charm City Science League**

Baltimore, MD

*Mentor*

Oct 2023 - Present

**Hippocrates Med Review**

Baltimore, MD

*Treasurer, Writer*

Sep 2023 - Present

**Hopkins Symphony Orchestra**

Baltimore, MD

*Cellist*

Sep 2023 - Present

**Supporting Hospitals Abroad with Resources and Equipment**

Baltimore, MD

*Shift Leader*

Sep 2023 - Present

**Johns Hopkins Math Tournament**

Baltimore, MD

*Writer*

Dec 2024 - Apr 2025

**Organic Chemistry Initiative**

Baltimore, MD

*Lecture Team*

Mar 2024 - Dec 2024