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

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 Sediation in the Pediatric ICU Aug 2024 - Present
Undergraduate Research Assistant

- Co-write and be awarded $50,000 Malone Seed Grant for interdiscplinary 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

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 Tournmament Baltimore, MD
Writer Dec 2024 - Apr 2025

Organic Chemistry Initiative Baltimore, MD
Lecture Team Mar 2024 - Dec 2024