

Daniel Yao

(608) 738-6047 | dyao13@jh.edu | github.com/dyao13

Education

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

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| Oberst Lab, Johns Hopkins University <i>Undergraduate Research Assistant</i> | Aug 2025 - Present |
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- 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

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| Johns Hopkins University <i>Teaching Assistant</i> | Aug 2024 - Present |
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- 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)

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| iMEDS: Data Driven Sedation in the Pediatric ICU <i>Undergraduate Research Assistant</i> | Aug 2024 - Present |
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- 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

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| Clark Lab, Johns Hopkins University <i>Undergraduate Research Assistant</i> | Jan 2025 - Aug 2025 |
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- 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

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| Susquehanna International Group <i>Susquehanna Discovery Day</i> | Mar 2025 |
| <ul style="list-style-type: none"> Shadowed and played strategy games with traders to learn about decisions, risk, and market making | |
| Liu Lab, University of Wisconsin-La Crosse <i>Research Intern</i> | Jun 2022 - Aug 2022 |
| <ul style="list-style-type: none"> 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

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| Hopkins Undergraduate Society of Applied Mathematics <i>Treasurer</i> | Baltimore, MD Aug 2025 - Present |
| Charm City Science League <i>Mentor</i> | Baltimore, MD Oct 2023 - Present |
| Hippocrates Med Review <i>Treasurer, Writer</i> | Baltimore, MD Sep 2023 - Present |
| Hopkins Symphony Orchestra <i>Cellist</i> | Baltimore, MD Sep 2023 - Present |
| Supporting Hospitals Abroad with Resources and Equipment <i>Shift Leader</i> | Baltimore, MD Sep 2023 - Present |
| Johns Hopkins Math Tournmament <i>Writer</i> | Baltimore, MD Dec 2024 - Apr 2025 |
| Organic Chemistry Initiative <i>Lecture Team</i> | Baltimore, MD Mar 2024 - Dec 2024 |