



Bryce Allen Bagley

MD Student with Scholarly Concentration in Bioengineering, expected graduation Spring 2026

Bio

BIO

I am an MD candidate with a background in physics, systems science & engineering, and computer science, which I apply to the quantitative study of complex biological systems.

My research interests are in the development of novel mathematical and machine learning methods for interpreting and understanding biomedical data. Few things make my ears perk up as much as variants of the phrase, "we have all this data, but aren't quite sure what to do with it."

I am additionally interested in medical ethics, and mathematics education within the medical community and the biosciences.

HONORS AND AWARDS

- Futures in Neurologic Research, American Academy of Neurology (2022-2023)
- Graduate Scholar in Residence, El Centro Chicano y Latino, Stanford University (2020-2021)
- Tau Beta Pi Member, Tau Beta Pi Honor Society (2017-)
- ADVANCE Fellow, Stanford University (2018)
- Boeing Scholar, The Boeing Company (2016-2018)
- Harold P. Brown Engineering Fellowship, Washington University in St. Louis McKelvey School of Engineering (2016-2018)
- Goldwater Scholarship Honorable Mention, Barry Goldwater Scholarship Foundation (2016)

EDUCATION AND CERTIFICATIONS

- Bachelor of Science, Washington University , Computer Science (2018)
- Bachelor of Science, Whitworth University , Biophysics (2018)
- M.S., Stanford University , (Theoretical) Biophysics (2021)
- B.S., Washington University in St. Louis , Systems Engineering (2018)
- B.S., Washington University in St. Louis , Computer Science (2018)
- B.S., WUSTL/Whitworth dual-degree program , Biophysics (2018)

LINKS

- LinkedIn Profile: <https://www.linkedin.com/in/bryce-allen-bagley/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Complex systems science, biophysics, and machine learning.

LAB AFFILIATIONS

- Claudia Petritsch, Petritsch Lab (4/4/2022)
- Olivier Gevaert, Gevaert Lab (7/28/2020)

Publications

PUBLICATIONS

- **BIOPROCESSING OF SURGICAL PEDIATRIC BRAIN TUMOR SPECIMENS FOR GENOME-GUIDED PERSONALIZED DRUG TESTING**
Nasajpour, E., Tran, C., Garcia, C., Lyle, G., Guinle, M., Bagley, B. A., Lancero, H., Gibson, E. E., Schouten, T., Mahaney, K., Vogel, H., Learned, K., Vaske, et al
OXFORD UNIV PRESS INC.2023
- **Generative Editing via Convolutional Obscuring (GECO): A Generative Adversarial Network for MRI de-artifacting**
Bagley, B., Petrov, S., Cheng, G., Armanasu, M., Fischbein, N., Jiang, B., Iv, M., Tranvinh, E., Zeineh, M., Gevaert, O.
LIPPINCOTT WILLIAMS & WILKINS.2023
- **Biophysical cybernetics of directed evolution and eco-evolutionary dynamics** *arXiv*
Bagley, B. A.
2023
- **Generative Editing via Convolutional Obscuring (GECO): A Generative Adversarial Network for MRI de-artifacting** *medRxiv*
Bagley, B. A., Petrov, S., Cheng, G., Armanasu, M., Fischbein, N., Jiang, B., Iv, M., Tranvinh, E., Zeineh, M., Gevaert, O.
2022
- **Pre-Synaptic Pool Modification (PSPM): A supervised learning procedure for recurrent spiking neural networks.** *PloS one*
Bagley, B. A., Bordelon, B., Moseley, B., Wessel, R.
2020; 15 (2): e0229083
- **A Heuristic Approach to Spiking Neural Networks** *Washington University Office of Undergraduate Research Digest*
Bagley, B. A., Bordelon, B.
2018; 13 (11)
- **Inverse Design of Optimal Nonlinear Photonic Structures** *MIRTHE Research Conference*
Bagley, B. A., Lin, Z., Rodriguez, A.
2016
- **A Theoretical Study of Binding Dynamics in TLX NR2E1 Ligand-Binding Domain** *UCSF SRTP Research Symposium*
Bagley, B. A., Jacobson, M.
2015
- **Increasing the Pepsin Resistance of a Prolyl Endopeptidase: Lessons Learned in the Prediction of Mutation Sites** *Spokane Intercollegiate Research Conference*
Klick, M., Arnold, M., Dodge, A., Miles, J., Cooper, S., Bagley, B. A., Jones, K.
2014