NICOLE BRYE

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nicole-brye

SUMMARY STATEMENT

I'm currently an undergraduate UC San Diego student majoring in Data Science and minoring in Business. I'm very passionate about data science, and intend to use my academic knowledge, research experience, and tutoring background to pursue a health-related data science career.

CORE QUALIFICATIONS

- Python, R, Java, Javascript SQL
- HTML, LaTex
- GitHub
- Computer Software (Microsoft Word, Excel, etc.)
- Statistical Analysis
- Machine Learning
- Data Management
- Tutoring / Coaching
- Time Management
- Organization
- Leadership

EDUCATION

University of California, San Diego 09/18-03/23

Bachelor of Science - Data Science (In Progress)

- Provost Honors
- Warren College Honors Society

Del Norte High School 08/14-06/18

High School Diploma

- Nighthawk Scholar

WORK EXPERIENCE

Student Researcher 07/20-Present

Shiley Eye Institute - Hamilton Glaucoma Center

- Evaluate the performance of machine learning models designed to detect glaucoma
- Assist with statistical analyses
- Compile research reports with statistical analyses enclosed. Create reports using RSweave and LaTex for clean formatting
- Assist with data management tasks

Data Science Tutor 09/21-Present

Halicioglu Data Science Institute

- Hold weekly office hours to answer student questions, debug code, and provide clarifications
- Answer student questions on the class forum
- Grade student submissions (projects, exams, homeworks)
- Proctor Exams
- Develop and beta test assignments before release
- Communicate regularly with other course staff to ensure the course is running smoothly.

Intern 09/22-Present

Measured Wellness

- Retrieve data from and navigate a multitude of patient dashboards
- Strategically combine the data from multiple sources to conduct analyses for patients. Spot unusual outliers, notice trends, and create visualizations
- Discuss and incorporate important pieces of life context with regards to patients

Junior Coach 01/19-03/20

IcePlex Escondido

- Facilitate skating school classes by shadowing/assisting the senior coach
- Provide corrections and instructions to skaters during classes
- Instruct short off-ice lessons for new skaters

ORGANIZATIONS

Figure Skating @ UC San Diego

President 09/21-Present

- Oversee all team operations
- Facilitate the planning/execution of all social, fundraising and competitive events
- Delegate responsibilities to board members
- Register the team for competitions
- Serve as the primary point of communication between the team and the United Figure Skating Association

Treasurer 09/19-06/21

- Primary manager of team finances
- Work with funding managers to secure funding for competitions
- Distribute reimbursements provided by UCSD

PUBLICATIONS

1. Fan R, Alipour K, Bowd C, Christopher M, **Brye N**, Proudfoot JA, Goldbaum MH, Belghith A, Girkin CA, Fazio MA, Liebmann JM, Weinreb RN, Pazzani M, Kriegman D, Zangwill LM. Detecting Glaucoma from Fundus Photographs Using Deep Learning without Convolutions: Transformer for Improved Generalization. Ophthalmology Science. 2023;3(1). doi:10.1016/j.xops.2022.100233

2. Bowd C, Fan R, Alipour K, Christopher M, **Brye N**, Proudfoot JA, Goldbaum MH, Belghith A, Girkin CA, Fazio MA, Liebmann JM, Weinreb RN, Pazzani M, Kriegman D, Zangwill L. Primary Open-Angle Glaucoma Detection with Vision Transformer: Improved Generalization Across Independent Fundus Photograph Datasets. Investigative Ophthalmology & Visual Science. 2022;63(7):2295-2295.

3. Mahmoudinezhad G, Moghimi S, Proudfoot JA, **Brye N**, Proudfoot JA, Nishida T, Yarmohammadi A, Kamalipour A, Zangwill LM, Weinreb RN. Detect Glaucoma Progression With Optical Coherence Tomography (OCT) and OCT Angiography. American Journal of Ophthalmology. 2023;245:184-192. doi:10.1016/j.ajo.2022.08.030

4. El-Nimri NW , Moghimi S, Penteado RC, Ghahari E, Yang D, **Brye N**, Proudfoot J, Do JL, Camp A, Salcedo M, Rubio V, Weinreb RN. Comparison of the Effects of Latanoprostene Bunod and Timolol on Retinal Blood Vessel Density: A Randomized Clinical Trial. American Journal of Ophthalmology. 2022;241. doi:10.1016/j.ajo.2022.04.022

5. Fan R, Bowd C, Christopher M, **Brye N**, Proudfoot JA, Rezapour J, Belghith A, Goldbaum MH, Chuter B, Girkin CA, Fazio MA, Liebmann JM, Weinreb RN, Gordon MO, Kass MA, Kriegman D, Zangwill LM. Detecting Glaucoma in the Ocular Hypertension Study Using Deep Learning. JAMA Ophthalmol. 2022;140(4):383–391. doi:10.1001/jamaophthalmol.2022.0244

6. Rezapour J, Tran AQ, Bowd C, El-Nimri NW, Belghith A, Christopher M, **Brye N**, Proudfoot JA, Dohleman J, Fazio MA, Jonas JB, Weinreb RN, Zangwill LM. Comparison of Optic Disc Ovality Index and Rotation Angle Measurements in Myopic Eyes Using Photography and OCT Based Techniques. Frontiers in Medicine. 2022;245:184-192. doi10.1016/j.ajo.2022.08.030:

7. Chuter B, Christopher M, Fan R, Belghith A, Bowd C, **Brye N**, Proudfoot JA, Rezapour J, Fazio MA, Goldbaum MH, Weinreb RN, Girkin CA, Liebmann JM, De Moraes CG, Zangwill LM. A deep learning model to assess fundus photograph image quality and improve predictive value of deep learning models of glaucoma detection. Investigative Ophthalmology & Visual Science. 2021;62(8):1016-1016.

8. Fan R, Bowd C, **Brye N**, Christopher M, Weinreb RN, Kriegman D, Zangwill L. One-Vote Veto: Semi-Supervised Learning for Low-Shot Glaucoma Diagnosis. arXiv. 2021. doi:10.48550/arXiv.2012.04841

9. Christopher M, Bowd C, Proudfoot JA, **Brye N**, Belghith A, Goldbaum MH, Rezapour J, Fazio MA, Girkin CA, De Moraes CG, Liebmann JM, Weinreb RN, Zangwill LM. Performance of Deep Learning Models to Detect Glaucoma Using Unsegmented Radial and Circle OCT Scans of the Optic Nerve Head. Investigative Ophthalmology & Visual Science. 2021;62(8):1014-1014

10. Fan R, Bowd C, Christopher M, **Brye N**, Proudfoot JA, Rezapour J, Belghith A, Weinreb RN, Kriegman D, Zangwill LM. Deep learning for detecting glaucoma in the Ocular Hypertension Treatment Study: Implications for clinical trial endpoints. Investigative Ophthalmology & Visual Science. 2021;62(8):1006-1006.

11. Mendoza L, Christopher M, **Brye N**, Proudfoot JA, Belghith A, Bowd C, Rezapour J, Fazio MA, Goldbaum MH, Weinreb RN, Girkin CA, Liebmann JM, De Moraes CG, Zangwill LM. Deep Learning Predicts Demographic and Clinical Characteristics from Optic Nerve Head OCT Circle and Radial Scans. Investigative Ophthalmology & Visual Science. 2021;62(8):2120-2120.

12. Fan R, Bowd C, **Brye N**, Christopher M, Weinreb RN, Kriegman D, Zangwill L. One-Vote Veto: A Self-Training Strategy for Low-Shot Learning of a Task-Invariant Embedding to Diagnose Glaucoma. CoRR. 2020.