Gavin Mischler

LinkedIn ◇ GitHub

EDUCATION

Johns Hopkins University August 2016 - June 2020
Bachelor of Science, Biomedical Engineering, GPA 3.98/4.0 *Baltimore, MD*
Focus Area: Biomedical Data Science
Relevant Courses: Deep Learning, Machine Learning for Signal Processing, Neuro Data Design, Probability and Statistics, Computational Biology and Bioinformatics
Honors: Tau Beta Pi (Top eighth of engineering class)

WORK EXPERIENCE

Medtronic May 2019 - August 2019
Biomedical Engineering Intern - Tachycardia Research *Minneapolis, MN*

- Developed a novel discrimination algorithm to improve cardiac arrhythmia detection.
- Analyzed a large dataset of medical signals in Python to predict future algorithm performance.

OtoGlobal Health, LLC December 2017 - Present
Product Development Engineer *Baltimore, MD*

- Designing a novel, smartphone-based infant hearing screening device for low-resource settings.
- Working cross-functionally to integrate software (app-based controller) and hardware.

Medtronic May 2018 - August 2018
Biomedical Engineering Intern - Device Product Engineering *Minneapolis, MN*

- Developed a benchtop test to characterize implanted device performance in various use-cases.

RESEARCH

Mathematical Institute for Data Science September 2019 - Present
Undergraduate Researcher, Supervised by Dr. Benjamín Béjar *Johns Hopkins University*

- Combining sparse signal sampling theory and supervised learning to develop a pipeline for estimation of neural firings from noisy calcium imaging data.

Vestibular, Balance, Gaze Control Lab July 2017 - December 2019
Undergraduate Researcher, Supervised by Dr. Kathleen Cullen *Johns Hopkins University*

- Analyzing gyroscopic motion data from vestibular patients to quantify patient deficits and improve outcomes.

PEER-REVIEWED JOURNAL PUBLICATIONS

† *denotes equal contribution*

✦ Hu, K.†, Lapinski, M. M.†, **Mischler, G.**†, Allen, R. H., Manbachi, A., & Seay, R. C.. Improved Treatment of Postpartum Hemorrhage: Design, Development, and Bench-Top Validation of a Reusable Intrauterine Tamponade Device for Low-Resource Settings. *Journal of Medical Devices*, 14(1) 2020.

PREPRINTS

† *denotes equal contribution*

✦ Ronan Perry†, **Gavin Mischler**†, Richard Guo†, Theo Lee†, Alexander Chang†, Arman Koul†, Cameron Franz†, & Joshua T. Vogelstein. mvlearn: Multiview Machine Learning in Python. *arXiv preprint* arXiv:2005.11890 2020.

CONFERENCE POSTERS AND ABSTRACTS

✧ Omid Zobeiri, **Gavin Mischler**, Susan King, Richard Lewis, Kathleen Cullen. Identification of Vestibular Impairment in Schwannoma Patients Relative to Healthy Controls Requires Testing During More Challenging Gait Tests. *Association for Research in Otolaryngology Midwinter Meeting*, Baltimore, 2019.

✧ Aseem Jain, Sanjay Elangovan, **Gavin Mischler**, Taha Baig, Darian Low, Hadley VanRenterghem, Siya Zhang, Keilani Caruso, Gianluca Silva Croso, John Carey, Francis Creighton. A Bone Conducting Distortion Product Otoacoustic Emissions (DPOE) System for Newborn Hearing Screening in Low Resource Settings. *Association for Research in Otolaryngology Midwinter Meeting*, Baltimore, 2019.

✧ **Gavin Mischler**, Omid Zobeiri, Susan King, Richard Lewis, Kathleen Cullen. Head Movement During Functional Gait Assessment Predicts Clinical Measures in Vestibular Patients. *Bárány Society Meeting*, Uppsala, 2018.

✧ Omid Zobeiri, **Gavin Mischler**, Susan King, Richard Lewis, Kathleen Cullen. Identification of vestibular impairment in schwannoma patients relative to healthy controls requires testing during more challenging gait tests, while vestibular loss following surgery alters standard gait. *Neuroscience*, San Diego, 2018.

PROJECTS/SOFTWARE

`mvlearn`, **mvlearn.neurodata.io** September 2019 - Present
Co-Developer

- Open-source Python package for multi-view machine learning, using `PyTorch`, `NumPy`, and other basic packages.

AWARDS AND HONORS

Richard J. Johns Award for Outstanding Academic Achievement in BME	2020
Provost's Undergraduate Research Award (PURA) Fellowship	2019
William H. Huggins Award for a Junior in Electrical Engineering	2019
Biomedical Engineering Design Team Award for Most Outstanding Freshman	2017

TECHNICAL SKILLS

Languages	Python, R, MATLAB, Java, C++, C
Packages	`PyTorch`, `scikit-learn`, `NumPy`, `SciPy`, `pandas`

TEACHING

Biomedical Data Science Lab *EN.580.477*, Teaching Assistant Fall 2019

PATENTS

Patent Pending: Seay, Rachel Chan, **Mischler, Gavin Moore**, Hu, Katherine, Lapinski, Maya, Marie. 2020. Treatment of hemorrhage with a reusable device. Application number WO2020081692, filed 10-16-2019.

VOLUNTEERING AND EXTRA-CIRRUCULARS

National Ski Patrol, Wilmot Mountain, WI 2014 - 2016