Gabrielle Strandquist

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Research Interests

Machine learning for neural engineering, mechanisms of neural activity in natural human behaviours.

Education

University of Washington, Seattle WA – PhD Candidate and NSF Graduate Research Fellow, 2019-Present
University of Washington, Seattle WA – Master of Science in Computer Science, 2022
Virginia Commonwealth University, Richmond VA – Bachelor of Science in Computer Science, 2019

Technical Skills

Languages – Python, Java, R, Perl, C, SAS, Unix, MATLAB
Tools – Tensorflow, Keras, Android developer, GitHub, LaTeX, PyTorch

Research Experience

National Science Foundation Graduate Research Fellow, University of Washington – 2021-Present
Engineered an at-home multimodal data collection platform for optimizing adaptive deep brain stimulation for Parkinson's disease, automating assessments of symptom severity from video and wearable-sensor data.

Paul G. Allen School First-Year Ph.D. Fellow, University of Washington – 2019-2020
Machine learning for decoding speech production and natural behaviours in human neural recordings.

Undergraduate Research Assistant, VCU, Department of Computer Science – 2016-2019
Conducted research on building tools for genomics-based classification problems and pattern recognition through deep neural networks.

Science Education Alliance (SEA) – 2015
https://www.hhmi.org/science-education/programs/science-education-alliance
https://www.ncbi.nlm.nih.gov/genbank/
Participant in Phage Hunters Advancing Genomics and Evolutionary Science. Isolated novel bacteriophage from soil samples. Annotated genomes for submission to GenBank.

Research Assistant, **University of Virginia, Computer Science Department – 2014-2017**
Conducted hours of investigative research on large intellectual property and patent litigations, and consults in regards to problem solving and organization.

Teaching and Outreach

NeuroMatch Academy Course Developer (NMA-CD).
Developed course materials for Week 2 Day 2 "Linear dynamical systems". Contributed to the design and creation of NMA teaching materials with tutorial design and Python implementation.

Writer for the Center for Neurotechnology's Engage and Enable Blog.
A series for aspiring engineers and scientists. Part I explores how scientific research works and Part II shares insights about the process.

Student Led Seminar Committee for UW Computational Neuroscience Center.
Started neural engineering seminar series featuring junior faculty and post-docs. Speakers are selected by undergraduate and graduate students.

Digital Media Coordinator for the Student Leadership Council at the Center for Neurotechnology.
Content writing and social media engagement to promote research opportunities to students.

Publications

Strandquist, G., Dixon, T., Frączek, T., Ravi, S., Zeng, A., Bechtold, R., … & Herron, J. (2023, April). **In-home video and imu kinematics of self guided tasks correlate with clinical bradykinesia scores**. In 2023 11th International IEEE/EMBS Conference on Neural Engineering (NER). In Press. IEEE.

Flounlacker, F., Johnson, A., Marquez, D., and Miller, R, on behalf of the 2015-2016 VCU Phage Hunters*, **Complete genome sequences of Bacillus phages DirtyBetty and Kida, Genome Announcement**

Posters

Dean's Undergraduate Research Symposium, 2018
Phage Lab Infographic, 2016

Awards

National Science Foundation Graduate Research Fellow, 2021
Paul G. Allen School Dean's First-Year Ph.D. Fellowship, 2019
Winner of the Dean's Undergraduate Research Symposium, 2nd place, VCU, 2018
Dean's Undergraduate Research Initiative (DURI) Fellow, VCU, 2018
Goldwater Scholarship Honourable Mention, 2017
Phi Kappa Phi – Life Sciences Undergraduate Scholarship, 2017
Dean's List, Virginia Commonwealth University, 2014 – 2019
Academic Achievement Award NB, Virginia Commonwealth University, 2015 – 2019

Mentored Students

Zeynep Toprakbasti, Undergraduate in UW Computer Science and Engineering, 2020 – Present