Seamus M Mawe

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Education

University of Vermont, Burlington, VT December 2016
BA Pure Mathematics with a minor in Philosophy, College of Arts and Sciences

Experience

Computational Sciences, The Jackson Laboratory 2020-Current
Research Assistant II

- Assist In the design and implementation of computational analysis
- Support the use of biostatistical methods
- Design and create figures for scientific publications

Mahoney Lab, UVM College of Medicine 2018-2020
Graduate Research Assistant

- Expand histological image analysis to examine greater tissue diversity
- Design and create figures for scientific publications
- Optimizing analyses to enhance throughput

Mahoney Lab, UVM College of Medicine 2016-2018
Research Technician

- Implemented convolutional neural network techniques for analysis of histological images
- Implemented machine learning techniques for the analysis of electrophysiologic data
- Implemented database pipeline to organize analyses

Department of Neurological Sciences, UVM 2015-2018
Intern/Statistical Consultant

- Provided input on experimental design and proper analysis
- Performed statistical comparison of data sets, including determination of test assumptions and decisions regarding proper tests to use
- Conducted Power Analyses on preliminary data

Epilepsy, Cognition, and Development group, UVM College of Medicine 2016-2017
Scientific programming intern

- Created an interface between Matlab analysis and Vermont Advanced Computing Core
- Submitted jobs to the Vermont Advanced Computing Core
- Debugged analysis programs

Philosophy Department, UVM, Burlington, VT Fall semesters, 2013 and 2014
Teaching assistant

- Tutored students
- Was responsible for determining grades
- Organized review sessions

Skills

- Communication – Able to follow directions on how analyses should be carried out, asking for clarification when needed, and have presented at lab meetings explaining technical analysis to non-computational biologists.
- Problem solving – I was given leeway in how to implement our histological image analysis and was able to find an effective solution as well as identifying and fixing bugs within the code.
- Multitasking – I have been able to work on multiple projects such as histological image analysis and electrophysiology analysis concurrently, delivering timely results for both.

Software proficiency

Julia, Matlab, Python, R Statistical Software System, BASH scripting, TORQUE server submission, SPSS Statistics, SQL, LaTex, Git

Publications

Spear, E.T., E.A. Holt, E.J. Joyce, M.M. Haag, S.M. Mawe, G.W. Hennig, B Lavoie, A.M. Applebee, C. Teuscher, and G.M. Mawe (2018) Altered gastrointestinal motility involving autoantibodies in the experimental autoimmune encephalomyelitis model of multiple sclerosis. Neurogastroenterology and Motility PMID:29644797

Susan Sheehan, Seamus Mawe, Rachel E. Cianciolo, Ron Korstanje, J. Matthew Mahoney (2019) Detection and Classification of Novel Renal Histologic Phenotypes Using Deep Neural Networks. The American Journal of Pathology DOI: 10.1016/j.ajpath.2019.05.019

Sprouse-Blum, AS, B Lavoie, M Haag, SM Mawe, EA Tolner, AMJM van den Maagdenberg, S-P Chen, K Eikermann-Haerter, L Ptacek, GM Mawe, and RE Shapiro No gastrointestinal dysmotility in transgenic mouse models of migraine. *Headache*. In press

Chase Correia MD, Seamus Mawe BS, Shane Lofgren, Jungwha Lee PhD MPH, Roberta Gonsalves-Marangoni MD PhD, Rana Saber MS, Kathleen Aren MPH, Aileen Hoffmann, Isaac Goldberg BA, Shawn Cowper MD, Purvesh Khatri PhD, Monique Hinchcliff MD MS, J. Matthew Mahoney PhD (2019) High-throughput Quantitative Histology in Systemic Sclerosis Skin Disease Using Computer Vision. Arthritis Research ARRT-D-19-00580 (submitted)