

Joseph Knox

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EDUCATION

UNIVERSITY OF WASHINGTON

M.S. IN APPLIED MATHEMATICS

June 2018 | Seattle, WA

UNIVERSITY OF WASHINGTON

B.S. IN INDUSTRIAL ENGINEERING

Minor in Applied Mathematics

June 2016 | Seattle, WA

SKILLS

PROGRAMMING

Advanced: Python

Intermediate: R • C • SQL • MATLAB

Novice: C++ • Java • OpenMP/MPI
Bash/sh

PROJECTS

MCMODELS | MAINTAINER

Dec 2017 – | Python

Python library for mesoscopic full-brain connectivity models in mouse.

RISTRETTO | PRIMARY CONTRIBUTOR

April 2018 – | Python

Randomized matrix factorization library written in Python.

CONTRIBUTOR TO

- Allensdk
- Scikit-learn

COURSEWORK

GRADUATE

Statistical Computing Combinatorial

Optimization

Computational Neuroscience

Statistical Analysis of Social Networks

Computational Methods for Data

Analysis

UNDERGRADUATE

Machine Learning Stochastic

Modeling/Decision Analysis

Linear and Network Programming

High-Performance Scientific Computing

SUMMARY

Master of applied mathematics with 1+ years researching statistical, graph theoretic models of brain connectivity. Driven learner who thrives working with equally driven, diverse groups of researchers, engineers, and business-focused professionals.

EXPERIENCE

ALLEN INSTITUTE FOR BRAIN SCIENCE | DATA ANALYST

June 2017 – Present | Seattle, WA

- Develop and implement novel models for full-brain connectivity
- Analyze heterogeneous, multi-scale experimental data
- Contribute to organizational open source software packages

RATLAB LLC | RESEARCH INTERN

July 2016 – Jan 2017 | Seattle, WA

- Designed and conducted experiments for product research and development
- Optimized hardware design through the use of statistical machine learning techniques

COLLEGE WORKS PAINTING | MANAGER

Feb 2015 – Sept 2015 | Seattle, WA

- Acted as project manager creating estimates and invoices for management of monetary funds
- Planned production schedule and successfully coordinated all projects, interacting with clients daily and ensured customer satisfaction
- Recruited, hired, and trained 3 employees

AMERICAN EXCELSIOR CO. | OPERATOR

Jul 2014 – Sept 2014 | Yakima, WA

KD&S ENVIRONMENTAL | CLASS ONE ASBESTOS ABATER

Jul 2013 – Sept 2013 | Yakima, WA

ALLAN BROTHERS, INC. | SCALE MANAGER

Jun 2012 – Aug 2012 and Jun 2013 – Jul 2013 | Naches, WA

PUBLICATIONS

- [1] J. A. Harris, S. Mihalas, K. E. Hirokawa, J. D. Whitesell, J. Knox, A. Bernard, P. Bohn, S. Caldejon, L. Casal, A. Cho, D. Feng, N. Gaudreault, N. Graddis, P. A. Groblewski, A. Henry, A. Ho, R. Howard, L. Kuan, J. Lecoq, J. Luviano, S. McConoghy, M. Mortrud, M. Naeemi, L. Ng, S. W. Oh, B. Ouellette, S. Sorensen, W. Wakeman, Q. Wang, A. Williford, J. Phillips, C. Koch, and H. Zeng. The organization of intracortical connections by layer and cell class in the mouse brain. *bioRxiv*, 2018.
- [2] J. E. Knox, K. D. Harris, N. Graddis, J. D. Whitesell, H. Zeng, J. A. Harris, E. Shea-Brown, and S. Mihalas. High resolution data-driven model of the mouse connectome. *bioRxiv*, 2018.