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
Fluent: • Python • LaTeX
Conversational: • C • Bash/sh • SQL

PROJECTS

MCMODELS | Maintainer
mouse_connectivity_models
Dec 2017 – | Python
Python library for mesoscopic full-brain connectivity models in mouse.

RISTRETTO | Primary Contributer
April 2018 - | Python
Randomized matrix factorization library written in Python.

COURSEWORK

GRADUATE
Combinatorial Optimization
Computational Methods for Data Analysis
Computational Neuroscience
Statistical Analysis of Social Networks
Statistical Computing

UNDERGRADUATE
Stochastic Modeling and Decision Analysis
Linear and Network Programming
High-Performance Scientific Computing
Machine Learning

EXPERIENCE

ALLEN INSTITUTE FOR BRAIN SCIENCE | Data Analyst
June 2017 - Present | Seattle, WA

RATLAB LLC | Research Intern
July 2016 – Jan 2017 | Seattle, WA

- Designed and conducted experiments for product research and development
- Wrote statistical machine learning scripts to investigate technology efficacy and optimize hardware design
- Worked in multidisciplinary team with dynamic responsibilities including systems administration, hardware design, and market research

COLLEGE WORKS PAINTING | Manager
Feb 2015 – Sept 2015 | Seattle, WA

- Ran marketing campaign resulting in 8 new clients resulting in $35,000 in personal sales
- Acted as project manager, recruiting, hiring, and training 3 employees (with zero employee turnover)
- Planned production schedule and successfully coordinated all projects, interacting with clients daily and ensured customer satisfaction

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.