Jacob Evarts

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EDUCATION

University of Washington   *Seattle, WA*
PhD Candidate Computational Biology, GPA: 3.98   *Expected June 2026*
NSF Graduate Research Fellowship Program Recipient

University of Oregon – Robert D. Clark Honors College   *Eugene, OR*
BSc Computer and Information Science, GPA: 4.01   *June 2021*
Senior Thesis: Propagating Prion States in RNA Modifying Proteins in Budding Yeast

RESEARCH EXPERIENCE

University or Washington   *Seattle, WA*
PhD Researcher   *September 2021-Present*

- Investigate novel frameworks for quantifying emergent behaviors in complex systems
- Use network theoretic techniques to analyze vasculature and cell populations
- Develop representation learning methods for agent-based model control
- Contributed to an open-source auto-ML pipeline with permutation testing for emulation

University or Oregon   *Eugene, OR*
Undergraduate Researcher   *Feb. 2019-July 2021*

- Adapted supervised and unsupervised algorithms (boosted trees, density-based clustering) to identify novel putative prion states in budding yeast
- Released a PyPI package, `wellcompare`, for analysis of high-throughput plate reader data

Biomechanics Investigation and Outreach   *Eugene, OR*
Treasurer & Core Member   *Mar. 2019-June 2021*

- Developed a custom prosthetic arm for a local boy with Moebius syndrome, causing amelia affecting both arms; resulted in meeting with Oregon senator Ron Wyden and local publications

LEADERSHIP & TEACHING EXPERIENCE

University of Washington   *Seattle, WA*
Teaching Fellow   *September 2021-June 2023*

- Assisted in teaching UW undergraduate courses ranging in size from 50-1000+ students. Topics included: quantitative biology, statistical methods, genetics, and biochemistry
- Led weekly programming, problem-solving, and/or laboratory sections
- Developed course material including lectures, programming assignments, homework, and exams

University of Oregon   *Eugene, OR*
Teaching Assistant   *Jan. 2019-June 2023*

- Selected to teach lab sections, demonstrate bench techniques, and provide individual tutoring

SKILLS

Programming

- Proficient: Python (Pandas, SciKit-Learn, TensorFlow), AWS (EC2, S3, Batch), Docker, Git, Unix
- Familiar: Java, Latex, C++, Swift, SQL

PUBLICATIONS & PRESENTATIONS

Manuscripts

- **Evarts J.,** Cain J., Yu J., Bagheri N., "Incorporating temporal information during feature engineering bolsters emulation of spatio-temporal emergence"
  Accepted to Bioinformatics January 29, 2024
- Garcia, D.M., Gill, C., **Evarts J.,** Chen, Y.R., She, R., Jarosz, D.F. "Common prion-like conformations of RNA modifying enzymes trigger phenotypic diversification across environments"
  Anticipated submission Fall 2024

Oral Presentation

- **Evarts J.,** Garcia, D.M., "More than a disease: prions as epigenetic mechanisms"
  Presented at 2020 Summer Program for Undergraduate Research Symposium; Eugene, OR

Poster Presentations

- **Evarts J.**, Cain J., Bagheri N., "Emulating spatio-temporal dynamics of multi-cellular and multi-scale systems proves challenging with machine learning"
  Presenting at the 2023 Biomedical engineering society; Seattle, WA
- **Evarts J.,** Garcia, D.M., "Hunting for prions: propagating putative prion states in budding yeast"
  Poster presented at 2020 Oregon Bioengineering Symposium; Virtual
- **Evarts J.,** Garcia, D.M., "More than madcow: prions as epigenetic mechanisms"
  Poster presented at 2020 Annual Biomedical Research Conference for Minority Students; Virtual