
Elias DeVoe

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Education

University of Wisconsin – Madison
Master of Biomedical Data Science

September 2022-May 2024

University of Wisconsin – Madison
Bachelor of Biochemistry
Bachelor of Applied Mathematics

September 2012-May 2016

Work Experience

Roy Group

Graduate Research Assistant (*August 2022 – Present*)

- Leverage explainability techniques to understand deep model predictions of 3D genome structure in HiC datasets.
- Identify gene networks associated with long-term survival of metastatic breast cancer.
- Several other projects, including deep learning approaches to scRNA-seq and HMM-based ortholog finding
- Compile and publish scientific research.

Medical College of Wisconsin Bioinformatics Software Developer (*December 2018 – August 2022*)

- Develop software applications to support clinical research and practice
 1. Suite of tools to explore phenotypic and genetic data, including EMR search powered by deep learning and unification of variants across the proteome to facilitate hypothesis generation.
 2. Tools to streamline identification of at-risk patients by genetic counselors
 3. Gather, verify, and analyze the data supporting each application
- Leverage the EMR in a variety of research projects developing the precision medicine center.
- Translate between many domains of expertise (data science, genomics, software)

Theseus LLC

Full Stack React/Django Developer (*June 2016 – November 2018*)

- Develop a data-driven learning application to:
 1. Facilitate learning and knowledge retention in adult learners
 2. Provide a metric on source quality and personal expertise in any category
- Build front-end, REST API, and content recommendation engine
- Manage tight communication with client including goals, progress, and setbacks

Roden Biogeochemistry Group

Undergraduate Researcher (*March 2015-July 2016*)

- Study interactions between microbial communities and geological systems
- Build data organization pipeline, automate BLAST workflow

Addendum

Southwest Conservation Corps (*Durango, CO*)

Trail Crew Member (*June 2014 – August 2014*)

Technical Skills (<https://github.com/grandevelia>)

- Machine learning: deep learning, shallow approaches, including tree-informed GMM, NMF, and network diffusion.
- Bioinformatics: computational network biology,
- Data Analysis: Python (Pytorch, Pandas, scikit-learn etc.), R (including Shiny), TORQUE, linux shell, matlab
- Frontend: React, React Native, Vanilla HTML/Javascript/CSS
- Backend: Django, Flask, PHP
- Database: MongoDB, Postgres, mySQL
- Exposure to: Java, Angular

Project & Hobbies

- Reductiscope, an iOS weight loss game
- Graphics: Processing, Blender, Inkscape
- Data Driven MKE
- Environmental Outreach: The Collider Environmental Summit 2018 (Asheville, NC), Earth Day Conference 2016 (Madison, WI)

References available upon request