



Heather Noonan

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EDUCATION

BS Computer Science & BS Statistics | *Michigan State University, Honors College*
GPA: 4.0/4.0

May 2022

TECHNICAL SKILLS

C++, Python, R, Java, Assembly, Unix, Shell Scripting, OOP Design, Jupyter Notebooks

EXPERIENCE

Professorial Assistant | *MSU Computational Bioinformatics Research Lab* 2018-present

- Compiled a pipeline of python and shell scripts for identifying and counting the number of unique bipartitions among tree replicates as part of the development of a new inferencing algorithm.
- Authored and presented a research poster detailing the evolutionary relationships between European house mice.
- Discussed my work/findings in biweekly meetings to evaluate project progress and future directions.

Student Athlete Tutor | *MSU Student Athlete Services* Fall 2019

- Tutored Student Athletes in various subject areas, including Calculus, C++ and Python.
- Learned how to break down problems into simple steps as well as how to explain the same material in a variety of ways for maximum comprehension.

TECHNICAL PROJECTS

Phylogenetic Bipartition Analysis Pipeline

- Wrote a script in python to identify and count the unique bipartitions among 100 tree replicates.
- Integrated the python program into an executing shell script meant to work with and write to files in a specified directory structure.
- Submitted jobs via batch files to the High Performance Computing Cluster at MSU.
- Analyzed the results calculated by my python program by creating aggregate histograms for each model condition in Microsoft Excel.

Budget Breakdown Program

- Developed a program in C++, with a GUI that included menu handlers and dialog boxes, allowing a user to analyze their spending and net cash flow per month.
- Used my knowledge of OOP concepts to construct a UML diagram illustrating the 13 classes, their attributes, methods, and relationships.
- Implemented unit testing, ensuring each class and its methods worked correctly.

HONORS

Undergraduate Research and Arts Forum 1st Place Award
Michigan State University Dean's List

Spring 2018
Fall 2018-Spring 2020

EXTRACURRICULARS

Phi Sigma Rho | Standards Board

2020-

Society of Women Engineers | Member

2018-