

Conner Rose

Undergraduate Computer Science Student

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EDUCATION

University of Michigan, *Ann Arbor, MI*

Aug. 2022 – May 2025

B.S.E. in Computer Science, Completing Requirements for B.S. in Honors Mathematics

GPA: 3.88/4.0

- **CS Coursework:** Programming and Data Structures, Data Science for Engineers, Data Structures and Algorithms, Discrete Mathematics, Machine Learning*, Foundations of Computer Science*, Computer Organization*, Web Systems*
- **Math Coursework:** Calculus I-IV, Linear Algebra, Combinatorics and Graph Theory, Advanced Calculus I (Analysis)*, Probability*, Probability Theory*, Advanced Linear Algebra*
*2023-24 coursework

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript/TypeScript, HTML/CSS, SQL (SQLite), \LaTeX

Tools: Git, Docker, Jenkins, Jupyter Notebook, MongoDB, Pandas, NumPy, Scikit-learn, Django

EXPERIENCE

Traders at Michigan, *Ann Arbor, MI*

Oct. 2023 – Present

Software Engineer

Bloomberg L.P., *New York, NY*

May – Aug. 2023

CTO Office Intern - Compute Architecture and OSPO

- Increased security of Bloomberg's public GitHub organization by ensuring appropriate removal of inactive accounts through automated access revocation using LDAP and **Python**, deployed in a **Docker**-containerized **Jenkins Pipeline**
- Developed a GitHub crawler using Python to scan all projects contributed to by Bloomberg employees over 10 years, automating contribution cataloging and verification of open-source license compliance, increasing audited projects by 3x

PROJECTS

Movie Review Prediction System

Python, Pandas, NumPy, Scikit-learn, Gensim, Matplotlib

- Performed feature extraction on movie review dataset by conducting one-hot encoding and trained support vector machines capable of classifying positive and negative reviews with 92% accuracy on imbalanced dataset
- Investigated gender bias within dataset, leveraging word embeddings to determine association of male and female gendered language with positive and negative terms in reviews

MST/TSP Solution Generator

C++

- Developed an implementation of Prim's algorithm to efficiently create a minimum spanning tree for a set of vertices
- Utilized arbitrary insertion heuristic approach to generate approximate solutions for the traveling salesperson problem with quadratic time complexity, allowing for computation for 10,000+ points in seconds
- Created a branch and bound algorithm to guarantee optimal solutions to the traveling salesperson problem and optimized via solution tree pruning, using MST-derived upper bound, reducing runtime by 90% with optimal solutions

SQL Clone

C++

- Implemented a database and query command language similar to SQL, including various database and table commands such as insertion, conditional printing, conditional deletion, and inner join
- Incorporated red-black trees and hash tables to index tables, increasing efficiency of conditional print commands
- Utilized map indices to optimize inner join command from quadratic to linear time complexity

Nim-AI

Python

- Constructed an Epsilon-Greedy Q-learning algorithm to train an AI agent to play the game Nim
- Optimized training parameters to reduce number of necessary training rounds and maximize AI move accuracy