MICHAEL S. MCNEILL

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EXPERIENCE

Software Development Engineer Intern

Amazon, Robotics AI

May 2022 – Aug 2022

- Created design documents to accurately outline project requirements.
- Productionized a tool to reduce instance segmentation annotation costs for images, contributing to a 90% reduction in annotation costs.
- Utilized AWS services to develop a generic pipeline for the annotation tool to streamline deployment of different models for scientists.

Research Assistantship

File Systems and Storage Lab

June 2021 – Present

- Analyzed traces with multiple threads for the Re-Animator project.
- Created graphs using matplotlib for KML Technical Report FSL-21-02.
- Experimented with altering parameters for different IO schedulers across multiple workloads to determine optimal values and statistical differences.

Teaching Assistant

Stony Brook University

Jan 2020 – May 2020, Jan 2022 – May 2022, Aug 2022 – Dec 2022

- Conducted weekly recitation section for 30 students, teaching concepts and examples from various programming languages.
- Worked directly with students during office hours to assist with completion and comprehension of assignments.
- Created review materials and questions for exams.

Software Development Engineer Intern

Cubicle Enterprises LLC

Oct 2018 – Feb 2019

- Created a Python Flask REST API for a generative design platform contracted to a major manufacturing and licensing company.

PROJECTS

ChanHull

Python

April 2022

- Created an implementation of Timothy Chan's optimal $O(n \log h)$ convex hull algorithm with a graphical display of algorithm progression using Matplotlib.
- Allows users to compare performance with $O(n \log n)$ Graham Scan as well as a modified version of Chan's algorithm. The comparison is shown through tables and graphs.

EDUCATION

M.S. in Computer Science

Stony Brook University

May 2022 – May 2023

3.96 Cumulative GPA

Relevant Courses

- Analysis of Algorithms
- Computational Geometry
- Machine Learning
- Natural Language Processing
- Operating Systems

B.S. in Applied Mathematics & Computer Science

Stony Brook University

Aug 2018 – May 2022

3.93 Cumulative GPA
Summa Cum Laude

Relevant Courses

- Computer Networks
- Data Structures
- Differential Equations
- Software Engineering
- Linear Algebra
- Multivariate Calculus
- Operations Research
- System Fundamentals II

LANGUAGES

Python | C | Java | MIPS Assembly | OCaml

SKILLS

Linux | Git | LaTeX | Matplotlib | Docker | AWS | Spring | SQL

REFERENCES

Christopher Tran
10x Genomics
christopher.tran@10xgenomics.com
- Supervisor at Cubicle Enterprises LLC

Redistricting

React/Java-Spring

Aug 2021 – Dec 2021

- Created a full stack web app which allows users to select 1 of 90 different candidate districtings, and improve population equality while preserving political attributes by moving census blocks.
- Primarily worked on the Spring back-end, client-server interaction and implementation of server algorithm to improve population equality.
- Collaborated with a group of 4 people for Capstone project, becoming the highest ranked team in the class.
- Wrote out detailed use cases and created UML class diagrams.

Grayscale Image Utility

C

Feb 2021

- Converts files to/from pgm, ascii and birp formats.
- Allowed for transformations on the binary decision diagrams underlying the birp format.

PUBLICATIONS

KML: Using Machine Learning to Improve Storage Systems. 2021. Ibrahim Umit Akgun, Ali Selman Aydin, Andrew Burford, **Michael McNeill**, Michael Arkhangelskiy, Aadil Shaikh, Lukas Velikov, and Erez Zadok.

AWARDS

Outstanding TA

2021-2022 Stony Brook University

Award of Honor for Outstanding Academics in Applied Mathematics & Statistics

2022 Stony Brook University

Dean's List

2018-2022 Stony Brook University