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BRIAN RAGO

EDUCATION

University of Michigan, Ann Arbor, MI – B.S. Computer Science AUGUST 2021 - DECEMBER 2023

Coursework: OS, Comp. Security, Compilers, Programming Lang., Cryptography, Web Development, Comp. Hardware & Org, Theory of CS, Data Struct. & Algo.

Michigan State University, East Lansing, MI – B.S. Computer Science AUGUST 2018 - MAY 2021

Coursework: Computation & Formal Systems, Parallel Computation, Machine Learning, Algorithm Engineering, Linear Algebra, Multivariable Calculus, Abstract Algebra

EXPERIENCE

Amazon Web Services, Seattle, WA – Software Development Engineer DECEMBER 2023 - PRESENT

- Design, specify, and implement software for processing agreements in the backend of AWS Marketplace
- Watch for and respond to tickets cut to the team in preparation for joining an on-call rotation
- Participate in daily standup meetings; perform a sprint retrospective and plan tasks for the next sprint every other week

CSE Department, University of Michigan, Ann Arbor, MI – Teaching Assistant JANUARY 2022 - DECEMBER 2023

- **Operating Systems (EECS 482):** AUGUST 2023 - DECEMBER 2023
  - Assisted in teaching OS design and implementation to a class of 350, covering concurrency, virtual memory, networking, and file systems
  - Led a weekly lab, wrote and graded exam problems, held weekly office hours, and gave guidance on Piazza
  - Modernized the course's lab content by updating our example code to use idiomatic C++, including smart pointers and other RAII
- **Data Structures & Algorithms (EECS 281):** JANUARY 2022 - DECEMBER 2023
  - Assisted in teaching DS&A to a class of 1000, covering priority queues, trees, sorting, hash tables, DP, and brute force optimization
  - Led a weekly lab, wrote exam problems, held weekly office hours, gave guidance on Piazza, and led a team each semester to grade exams
  - Improved the student experience without sacrificing rigor by writing testing frameworks for several coding assignments

Amazon Web Services, Seattle, WA – Software Development Engineer Intern MAY 2022 - AUGUST 2023

- Designed, specified, and implemented a software package for contract validation in the backend of AWS Marketplace
- Refactored existing code to eliminate duplication across packages and to group related functions together in the system hierarchy
- Participated in daily standup meetings; performed a sprint retrospective and planned tasks for the next sprint every other week

Salido, Atlanta, GA – IT Intern JUNE 2021 - AUGUST 2021

- Wrote shell scripts and Terraform modules to streamline the process of standing up Kubernetes clusters for future microservices
- Cut the time to provision and configure a cluster down to just minutes and reduced the likelihood of human error

CSE Department, Michigan State University, East Lansing, MI – Teaching Assistant JANUARY 2021 -MAY 2021

- **Introduction to Programming II (CSE 232):**
  - Assisted in teaching basic C++ to a class of 400, covering topics from simple control flow to STL containers and generic algorithms
  - Led a weekly lab, wrote exam problems, held weekly office hours, gave guidance on Piazza, and graded large projects for code style
  - Contributed to course development by completing and debugging new projects prior to release

Verifone, Chicago, IL – Software Engineer Intern JUNE 2019 - AUGUST 2019

- Wrote an embedded driver running in a secure embedded OS to perform a variety of integration tests
- Built a tool using Python and TCL to automate integration testing by communicating with that driver over a 9600-baud link

SELECTED PROJECTS

itsdst: Developed an educational website using Haskell and Hakyll with information about time zones and time standards

Hash Table Verifier: Implemented a C++ eDSL for specifying and testing hash table behavior, with an optional interface for referring to internals

ctfs: Created a simulated file system using FUSE and LibTooling that adds C++-template-like behavior to specially-written C code

effectful-cpp: Wrote a polysemy-inspired library for describing effects at the type level so a C++ compiler can enforce the absence of unwanted effects

SKILLS

Computer: C++, C, Haskell, Rust, SQL, Python, Java, Kotlin, TypeScript, OCaml; clang tools, Git; Boost, Aeson, React, syn+quote; Linux, AWS.

Fun: I have played cello for twelve years! I was third chair in the Pioneer Symphony Orchestra during high school :)