

Samuel A. Mercier

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Education

Purdue University (College of Science, Honors College)

West Lafayette, IN

B.S. in Mathematics, B.S. in Computer Science Minor: Philosophy

May 2020

Relevant Course Work CS 381 Intro to Algorithm Analysis, CS 252 Systems Programming, MA 572 Algebraic Topology, MA 553 Algebra

Awards: Purdue Presidential Scholarship & Purdue Marquis Scholarship

Fall 2015–Present

Thomas Arai Scholarship

Spring 2019

Mitch Daniels Early Graduate Scholarship

Fall 2015

Honors: Dean's List

6 of 7 semesters

The Outstanding Senior Mathematics Major

Spring 2019

Experience

Work Experience – Software Engineering

Programming Languages/Frameworks

o Proficient: C/C++ & JavaScript

o Familiar: Elixir, Emacs Lisp, Java, Python, & Ruby

Software Engineer Intern Affirm (San Francisco) – Risk Engineering Team

September 2019–November 2019

Expanded the functionality of the underwriting microservice. Made loan decision tasks asynchronous. Expanded integration testing of loan decisioning.

Technologies: Python, SQL, Shell scripting, & Docker.

Software Engineer Intern MongoDB (New York) – Query Team

May 2018–August 2018 & May 2019–Present

Implemented a new index type which can index all fields of all documents in a given collection. Sped up \$lookup/join queries by 28x according to performance tests. Recovered technical debt by rearchitecting projection execution.

Technologies: C++, Python (for testing), & JavaScript (for testing).

Software Engineer Intern MongoDB (New York) – Monitoring Team

May 2017–August 2017

Researched and implemented time series analysis techniques for anomaly detection for their “DaaS” platform. Integrated into existing alerts framework to create automated anomaly detection alerts.

Technologies: Java & MongoDB.

Web Development Intern in Support of NASA Systems Engineering NASA JSC

January 2017–May 2017

Developed requirement management software used throughout NASA. Isolated state, and added routing.

Technologies: JavaScript, Node, Angular 1.x, Brunch, & Redux.

Software Engineer Intern Fullstack Springbuk (Indianapolis)

June 2016–August 2016

Led development on an external onboarding application. Improved frontend/backend communication of product.

Technologies: PostgreSQL with ActiveRecord as a wrapper, Ruby, Ruby on Rails, & JQuery.

Work Experience – Teaching

MA 161/162 Undergraduate Teaching Assistant

August 2018–Present

Answer questions with students in “flipped classroom” for MA 161/162 (*Calculus I/II*).

CS 252 Undergraduate Teaching Assistant

January 2018–May 2018 & August 2018–Present

Assist in teaching CS 252 *Systems Programming* in weekly lab classes & preparing materials (labs, exams, etc.)

CS 240 Undergraduate Teaching Assistant

January 2016–May 2016 & August 2016–December 2016

Assist in teaching CS 240 *Programming in C* in weekly lab classes & preparing materials (labs, exams, etc.)

CS USB Help Room Tutor

September 2015–December 2015

Tutored in CS 180 *Object-Oriented Programming* & CS 240 *Programming in C*.

Volunteer Experience

BoilerMake Hackathon Executive Board (Dev & User Experience Team)

January 2016–October 2018

Helped plan and organize anything relating to resources/services for the event participants. Made a puzzle webapp.

Purdue FIRST Programs (IT Team)

August 2015–December 2016

IT Director

May 2016–December 2016

Lead IT work for organization that helps support local robotics teams in high schools and middle schools.