

Avery Harnish

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EDUCATION

LAFAYETTE COLLEGE

Easton, PA

B.A. IN COMPUTER SCIENCE

AND RELIGIOUS STUDIES

Expected May 2019

SKILLS

PROGRAMMING

Experienced with:

Cloudflare Workers • Javascript • Python • Flask • SQL

HTML • CSS • Docker • jQuery

Familiar with:

Golang • React • C++ • C • R • Java
Ruby & Ruby on Rails • Docker

COURSEWORK

SOFTWARE

Data Structures & Algorithms

Operating Systems

Artificial Intelligence

Theories of Computation

Analysis of Algorithms

Software Engineering

(*NCurses, QtCreator & C++*)

Database Management Systems

(*Ruby on Rails, HTML, CSS, Javascript & PostgreSQL*)

Operating Systems

MATHEMATICS

Calculus I, II, & III

Mathematical Modeling

Statistics

Discrete Structures

Logic

OTHER

Physics

Computers and Society

Computer Organization

LINKS

Site: averyharnish.com

Github: EverlastingBugstopper

LinkedIn: avery-harnish

2+ YEARS OF INDUSTRY EXPERIENCE

CLOUDFLARE INC. | SYSTEMS ENGINEER INTERN

May. 2018 – current | Austin, TX

My main project consisted of implementing a system that generates Signed HTTP Exchanges, on the fly, in Cloudflare Edge Workers. Signed Exchanges let a publisher take static content such as AMP pages, cryptographically sign it, and then allow other people to distribute it. Google has proposed Signed Exchanges as a solution to AMP's URL attribution problem.

- Signed Exchanges involve implementing Merkle Integrity Content Encoding, and signing with ECDSA keys
- Implementing this in a Cloudflare Edge Worker takes the burden off of publishers, as all they will need to do is enable the script in front of their zone and Google's AMP cache will serve their AMP pages with the proper URL
- This is currently a Standards Track Internet Draft, mainstream adoption is still far away, and is not yet available to Cloudflare customers

I also developed the following applications for use in Cloudflare Edge Workers

- Lightweight router similar to Express to run web applications at the edge, my website is served from Cloudflare's edge
- Prototyped SQL queries over HTTPS using cloudflared by parsing and inserting user agent data about each route on a site

SNOWVATION INC. | SOFTWARE DEVELOPMENT INTERN

May. 2017 – Jan. 2018 | Bethlehem, PA & Denver, CO

I worked with a small team of engineers to create shredbetter.com from the ground up.

- In a few short months our team produced a b2b and b2c platform for ski resorts, their instructors, and their customers. The site allows users to leave reviews for instructors, request specific instructors for their lessons, and allows resorts to sell ski/snowboard rentals, and any other product.
- I designed database models, made user experience decisions, and developed numerous features from start to finish, across the whole stack.
- I developed an automated email system that notifies guests of upcoming lessons, a user portal for instructors and students that includes useful scheduling information and the ability to view/send progress cards.
- Our stack was made for back-end developers. Server-side rendering with Jinja2 and jQuery power the site's front end, while the back end is a (dockerized) Flask app interacting with MySQL.

LAFAYETTE COLLEGE IT SERVICES | STUDENT CONSULTANT

August 2016 – current | Easton, PA

- Work with the Registrar office to automate maintenance of department information
- Regularly attend ITS board meetings
- Provided technical support at the help desk for faculty and students at Lafayette College

MANNA FOODS | TECHNICAL STAFF ASSISTANT

June 2016 – January 2017 | Lebanon, PA

LEADERSHIP POSITIONS

- 2016-2018 Treasurer of the Association for Computing Machinery's Lafayette College Chapter
- 2017-2018 Copy Editor for The Lafayette