

SAMUEL ROSENTHAL

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OBJECTIVE: A summer position where I can apply my technical skills to solve real world problems.

EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Bachelors of Science, Major: Computer Science, Minor: Operations Research

Expected May, 2021
Major GPA: 3.1
Cumulative GPA: 3.0

Relevant Coursework:

Spring 2019: Data Structures and Functional Programming, Basic Engineering Probability and Statistics, Practical Tools for Operations Research, Machine Learning and Data Science

College: Object-Oriented Programming and Data Structures (Java), Discrete Structures, Digital Logic and Computer Organization, Introduction to Computing Using Python, Short Course in MATLAB, Practical Computing for Engineering Applications of MATLAB

High School: Computer Programming 1, 2 and 3 (Java), AP Computer Science

EXPERIENCE/PROJECTS/INTERNSHIPS

java-cssSelector-to-xpath (Independent Personal Project)

June 2018 – Present

Developed Open Source Software written in Java to convert CSS Selector strings to XPath strings. Validated and parsed CSS Selector strings using Java Regex classes. Utilized recursion to efficiently parse input strings. Implemented 17 JUnit tests and over 270 individual test cases. Used GitHub as the code repository, Apache Maven as the build automation tool, and Travis CI as the continuous integration service. Gained extensive experience with CSS and CSS Selectors.



CSS Selector to XPath Converter Website (Independent Personal Project)

July 2018 – Present

Created an online tool to transform CSS Selector strings to XPath using my java-cssSelector-to-xpath OSS. Used Apache Wicket as the web application framework. Hosted website on Google Cloud Platform's App Engine and used Google Cloud Shell (Debian Linux and bash shell) to compile, test deploy, and deploy the web app. Used App Engine's tools to manage and Google Analytics to monitor website. Used Selenium to test website and verify the correctness of my OSS converter. Programmed all Selenium tests using only CSS Selectors (By.cssSelector) and then reran the same tests using XPath (By.xpath) generated by converting the CSS Selector strings using my OSS. Used JUnit test framework to run all Selenium tests against Chrome, FireFox, and Edge browsers.



Personal Website

July 2018 – Present

Developed website without templates or publishing tools while using Eclipse as my editor. Used Bootstrap as the front-end component library, Javascript and jQuery to provide additional dynamic behavior, and Font-Awesome for some icons. Used CSS to style and format page content.



Programming Counselor, TIC Technology Camp, Potomac, MD

Summers: 2017 & 2018

Taught Java and Terrapin Logo programming to campers ages 7 to 14. Java graphical programs were written in Swing and utilized Processing's graphic framework. Graphical programs would often use AWT Graphics, AWT Shapes, BufferedIO, ImageIO, events, event listeners. Text-based programs would use Scanner and JOptionPanels.

Science Internship, National Institute of Standards and Technology, Gaithersburg, MD
Material Measurement Laboratory

Sept. 2016 - May 2017

Extracted fibers from dyed fabrics to collect data using a microspectrophotometer on the occurrence of photofading in fiber trace evidence. Compiled data into Excel spreadsheets to facilitate visual presentations of the results.

Skills (Visit my website for detailed descriptions and knowledge matrix)

Programming Languages: Java, Python, MATLAB, HTML 5, CSS 3, Javascript, Logo

Development Tools: Apache Maven, Git, Tortoise Git, Travis CI, JUnit, Selenium

Web Development: Apache Wicket, Google Cloud Platform, Google Analytics, jQuery, Bootstrap, Font Awesome

Other: Regular Expressions, GitHub, Eclipse, Komodo Edit, Processing, Debian Linux, Microsoft Office

AWARDS/PUBLICATIONS

State of Maryland Merit Scholastic Award (top 5% of graduating class) (2017), President's Award for Outstanding Academic Excellence (2017), AP Scholar with Distinction Award (2016)

[Forster, A.L., Bitter, J.L., Rosenthal, S., Brooks S., and Watson, S.S. "Photofading in cotton fibers dyed using red, yellow, and blue direct dyes during examination with Microspectrophotometry \(MSP\)." *Forensic chemistry* 5 \(2017\): 72–78. PMC.](#)