

EDUCATION

Stony Brook University, Stony Brook

Computer Science • GPA 3.93 • 2016-2019 (Dec.)

COURSES

Analysis of Algorithms *Optimization, NP-Completeness*

System Fundamentals *CPU Architecture, Kernel Prog.*

Computer Security Fundamentals *Encryption, Offensive Security*

Databases *SQL, Normalization*

Cloud Computing *Scalable Systems, Big Data, Serverless Comp.*

EXPERIENCE

Amazon – Software Developer Engineer Intern

SDE Intern | Jun. 2019 – Aug. 2019

- Implemented 2 service APIs to classify and automate workflows acting on AWS Marketplace entities. This streamlined development for downstream teams to better manage workflows that acted on Marketplace entities.
- Designed/implemented infrastructure to parallelize data indexing. Supported at least 700 transactions/sec (2,233% increase) with support for hooks to execute business logic.

LBI Software – Software Engineering Intern

Software Engineering Intern | May 2018 – Aug. 2018

- Full-stack development on LBI's human resources suite using Angular, TypeScript, Spring, and SQL.
- Reduced server startup time by 50% by building a wrapper for the BIRT (Business Intelligence) runtime to run parallel with the application, rather than as a separate deployment.
- Implemented RESTful API secured with JWT authentication.

Teaching Assistant for System Fundamentals

Teaching Assistant | Sept. 2017 – Dec. 2018

- Taught classes of 15- 25 students concepts of computer organization, MIPS architecture, and control path design.
- Helping to introduce the MIPS Assembly programming language through live coding sessions.
- Holding office hours for 3 hours each week and moderating and answering questions on Piazza for over 150 students.

PROJECTS

Polarity | VB.NET / HTML / JS

Dec. 2011 – Present

- Fast web browser built to optimize memory consumption through active garbage collection, yielding up to 50% lower RAM usage compared to Internet Explorer.
- Received over **1,000,000 downloads** since its release in 2013, averaging **4 stars** on popular download sites like CNET and Softpedia.

Cirrus | CSS / JS

Dec. 2016 – Present

- A modern, flexible CSS framework bundled with pre-styled components such as tabs, cards, modals, and modularized theming.
- Designed with relatively small footprint, using only **15.1kb** when minified and gzipped.

Nimbus | Node.js / HTML / CSS / PHP

Apr. 2017 – Present

- A RESTful responsive web app designed to fetch random songs, songs based on user query, and songs related to the users' musical taste from SoundCloud.

Smores Underflow | TypeScript

Mar. 2019 – May 2019

- A scalable Stack Overflow clone built with TypeScript, Koa, MongoDB, Kibana, Elastic Search, Redis, Nginx, and RabbitMQ.
- Hosted database and application servers through Openstack and was able to handle 200,000 requests and 1000 users.

Kumo | Python

Nov 2018 – Dec. 2018

- A web crawler that autonomously navigates sites collecting and tokenizing keywords to break into accounts upon detecting login forms.
- Uses a graph to perform DFS/BFS on web pages keeping track of page depth, login forms, and recover from 503/429 errors.
- Tests transformation of credentials (reverse/upper/lower/leetspeak).
- Was able to crack test website (modeling after standard web site) with 3 pages, 2 forms, ~100 unique keywords in **under 3 minutes**.