

Cole Hansen

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Summary

Computer science student interested in software engineering, full-stack web development, devops, and data science. Two years of experience in each of: development of web applications; system administration on Linux; and various programming tools. Solid background in systems programming, database design, and internet protocols.

Education

Brown University | *Computer Science, B.A. and Ethnic Studies, B.A.* Sept. 2015 – May 2019

- **Select Courses:** Intro to Software Engineering; Artificial Intelligence; Theory of Computation
- **Concentration GPA:** 3.67

University of Minnesota-Duluth | *Additional Coursework – Dual Enrollment* Sept. 2013 – May 2015

- **Select Courses:** Honors Computer Science 1, 2; Computer Science Theory; Linear Algebra; Combinatorics
- **Overall GPA:** 3.96

Experience

Software Developer | *Center for Digital Scholarship, Brown University* Feb. 2017 – Present (Summer 2017)

- Maintain and update existing faculty projects that contain web application and database components.
- Develop new digital projects for faculty by providing software architecture and data modeling services.
- Manage development and production environments on DigitalOcean, Amazon EC2, and local machines.

Software Engineer | *Mapping Violence Project, Brown University* Apr. 2016 – June 2017 (Summer 2016)

- Lead team in the design and development of custom data collection and visualization applications.
- Perform system administration on Linux servers and test and deploy software using Docker containers.
- Communicate technology specifications and progress updates to non-technical team members.

Undergraduate Teaching Assistant | *Computer Science, Brown University* Nov. 2016 – Present

- Create assignments/solutions for: Intro to Discrete Structures and Probability; Theory of Computation.
- Hold T.A. hours and answer questions on Piazza to facilitate student comprehension and learning.

Select Projects

Database of Indigenous Slavery in the Americas | <http://bit.ly/disa-github> Feb. 2017 – Present

- Create, iterate, and explain data models for representing unstructured data about slavery.
- Develop application with stack consisting of Polymer, Node.js, Hapi.js, Google OAuth, and MongoDB.
- Consider possible uses of web semantic technologies, linked open data, and domain-specific ontologies.

Mapping Violence Applications | <http://mappingviolence.org> Apr. 2016 – Aug. 2017

- Streamline data collection by building custom MVC web application using Apache Tomcat and jQuery.
- Use MongoDB to develop storage solution and manage accounts with Google OAuth and Identity APIs.
- Expose data via REST-like JSON API with SparkJava and use API with Leaflet.js to create visualizations.
- Design and implement custom date format to handle ambiguity and imprecision in archival research.

Database | *Intro to Systems* Dec. 2016

- Implement in C a multi-threaded database server with both UDP and TCP connections.
- Use POSIX Threads to enable concurrent client connections and mutexes to perform fine-grained locking for safe access; and properly handle system signals for clean disconnect.

Eventually | *Intro to Software Engineering – <http://bit.ly/eventually-github>* Jan. 2016 – May 2016

- Collaborate in a team using git to produce a MVC Java and Freemarker web application.
- Create interactive maps of Facebook events with Facebook API and Carto's JavaScript library.
- Co-design frontend, implement server routes and models, and authenticate users with StormPath API.

Leadership Experience

Captain & Lead Programmer | *FIRST Robotics, Hermantown High School* Sept. 2013 – May 2015

- Lead 12 students and delegate roles for the design, building, and programming of competition robots.

Interests

Genealogy, Travel, Digital Humanities, Cooking & Baking, Knitting