

# Cole Hansen

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## Summary

Computer science and ethnic studies student interested in software engineering, data science, web development, and digital humanities. Combined two years of experience in the design and development of web applications, system administration on Linux, web-based visualizations, and programming tools. Solid background in the integration of digital technology with the humanities and social sciences, systems programming, and database management.

## Education

**Brown University** | *Computer Science, A.B. and Ethnic Studies, A.B.*

Sept. 2015 – May 2019

- **Concentration GPA:** 3.67 | **Overall GPA:** 3.50

- **Select Courses:** Intro to Software Engineering; Intro to Systems; Theory of Computation; Topics in Abstract Algebra; Crime and the City; Language and the Mind

**University of Minnesota-Duluth** | *Additional Coursework – Dual Enrollment*

Sept. 2013 – May 2015

- **Overall GPA:** 3.96 | **Total Credits:** 59

- **Select Courses:** Honors Computer Science 1 & 2; Computer Science Theory; Linear Algebra; Intro to Acting

## Experience

**Software and Geographic Visualization Engineer** | *Mapping Violence, Brown University*

Apr. 2016 – Present

- Lead two-person team in the design and development of custom enterprise-level data collection and visualization applications for a digital humanities project and humanities researchers using Java, Tomcat, SparkJava and MongoDB (backend) and Bootstrap and jQuery (frontend).
- Perform system administration on Linux servers and test and deploy software using Docker containers to DigitalOcean and bare-metal Linux machines. Preserve uptime and data across infrastructure migration.
- Communicate technology specifications and progress updates to non-technical team members.

**Board Member** | *Information & Technology Advisory Board, Brown University*

Oct. 2016 – Present

- Review and make recommendations to the CIO concerning the implementation of current and proposed computing and information technologies; collaborate with two dozen colleagues across multiple disciplines.

**Undergraduate Teaching Assistant** | *Brown University*

Nov. 2016 – Present

- Create assignments and write solutions for Intro to Discrete Structures and Probability.
- Respond to student questions and explain concepts to facilitate student learning and comprehension.

## Select Projects

**Data Collection Software and Mapping Visualization** | <http://mappingviolence.org>

Apr. 2016 – Present

- Build from scratch a custom MVC Tomcat web application that allows humanities researchers to digitally collect semi-structured data and store it into a MongoDB instance, streamlining data collection efforts.
- Secure data and create user accounts with Google OAuth and Identity APIs.
- Design and implement custom date format to allow for ambiguity and imprecision in archival research.
- Develop REST-like API with SparkJava for collected data and use API with Leaflet.js to create visualizations.

**Eventually** | *Intro to Software Engineering – https://goo.gl/mSm46d*

Jan. 2016 – May 2016

- Collaborate in a team using git to produce a MVC Java and Freemarker web application that maps Facebook events via the Facebook API and provides recommendations based on user preferences.
- Create interactive maps of Facebook events with CartoDB's JavaScript library.
- Co-design frontend, implement server routes and models, and provide authentication with StormPath API.

**Database** | *Intro to Systems*

Dec. 2016

- Implement in C a fully functional, 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 on data for safe access; and properly handle signals for clean disconnect.

**Fable** | *YHack (Yale's Hackathon) – Partially functional demo: http://shareyourfable.com*

Nov. 2015

- Prototype Node.js app that allows sharing of personal, historical, or cultural oral narratives tied to location.
- Use Google Maps API to display map of uploaded stories and their corresponding location.
- Won Cultural Heritage Award provided by Yale Institute for the Preservation of Cultural Heritage.

## Leadership Experience

**Captain & Lead Programmer**, FIRST Robotics, Hermantown High School

Sept. 2013 - May 2015

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

**Interests** – Digital Humanities, Travel, Cooking & Baking, Knitting, Genealogy