# Ellie Lockhart

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Coding Portfolio: <https://ellielockhart.github.io/>

Summary

Seasoned developer with over **10 years coding experience** in Python, SQL, and more. Continuing a **seven-year career** in data research and instruction while broadening skills in general software development. Familiar with industry-standard coding-frameworks including JavaScript, C#/F#/ASP.net, Java/Scala/Groovy, RESTful API development & responsive web design, as well as standard practices such as **Agile development methodology** and **test driven development**. Multiple years experience with SQL and NoSQL database administration and querying, as well as techniques for web based data gathering, extraction & collation. Familiar with containerization using Docker, Docker Compose, and Kubernetes. Seasoned data researcher with **5 years experience with R** and Python in academic & research contexts. Skilled in DevOps, led the administration of a hobby website for a period of 4 years, including multiple database and software framework migrations. Actively pursuing AWS and Google Cloud Engineer certifications; has worked with Azure Data Factory & Databricks. Seeking to contribute to a team of skilled and enthusiastic professionals.

**Key skill proficiencies**

**Python • SQL • .NET/C#/F# • Java • Scala • Groovy • R • Notebooks (Jupyter/Azure/Databricks) • Pandas/SciPy/NumPy • Apache Spark • Natural Language Processing (NLP)** • **Embedded Systems • Microservices • RESTful API development • Docker • Kubernetes • NoSQL & Document Stores • Multi-Cloud Development (AWS/GCP/Azure) • Deep Learning • Agile • Test Driven Development (TDD) • Regulatory/Privacy Compliance**

Education

Texas A&M University (College Station, TX) 2010 – 2015 Communication Ph.D.

* Conducted in-depth **data driven** research on textual and human-subjects online sources in online and computer-driven communication; completed a 50,000 word doctoral dissertation on developing trends within the "nerd" subculture
* Completed **5 years** of graduate coursework on human subjects research, **statistical analysis**, and textual methods, including study of **coding languages such as R** and independent study of database management systems and records digitization

Ripon College (Ripon, WI) 2006 – 2010 Communication Bachelor’s

EXPERIENCE

**Freelance** (Minneapolis Area, MN)2020 – 2021 **Independent Software & Data Developer**

* Work independently on over 5 data and software development projects on a freelance or independent basis
* Author scripts, administer databases, and utilize data science libraries to find answers to questions of public, personal, and professional interest using statistical methods and **machine learning,** using at least 5 separate languages/frameworks (Python, R, F#, Scala, & data discovery through cloud providers such as Azure Data Factory)
* **Obtain quantitative answers** using cloud services, including Amazon Web Services, Azure, and GCloud, and utilizing graph databases such as Neo4j and Amazon Neptune as well as traditional SQL
* **Build APIs** to interface with data using GraphQL and RESTful principles, following industry best practices for pipeline development
* Liase with reporters and other members of the public; write and distribute summaries of findings
* Publish datasets on topics of public interest, with 2 complete datasets available on Github and Kaggle platform, subject to ongoing analysis

**Saint Mary's University of Minnesota** (Winona, MN) 2019-2020 **Security Services**

* As a contractor, provided **urgent on-call support services** for a private liberal arts university with over 1,000 students, predominantly during the onset of the COVID-19 crisis
* Engaged in scheduled procedural patrols guided by enterprise so ware and filed hourly or semi-hourly reports from mobile and desktop platforms to ensure safety and sanitation
* Archived and monitored enterprise surveillance systems and databases of authorized personnel

Rowan University (Glassboro, NJ) 2015-2018 Assistant Professor

* Conceptualized an **aggressive program of research** on online culture, consisting of **digital field research**, **grant writing** about issues of public concern, and human subjects research
* Led the development of and **taught 2-3 courses per semester** dealing with topics relating to mass mediated communication in the Internet era; **constructed curriculum** utilizing industry standard **learning management systems** (LMSs)
* **Published 2 peer reviewed papers** in media-related journals utilizing new research data, as well as research data gathered during my doctoral program
* Regularly attended conferences in the Communication field, presenting research on an annual basis for 3 years while engaging in scholarly conversation; participated in Faculty Senate and internal departmental governance conversations
* Advocated for and drove the pursuit of grants in support of increased engagement with **data-driven technology in academic work**

Texas A&M University (College Station, TX) 2010-2015 Graduate Lecturer/Research Assistant

* Taught **2-3 sections of coursework** related to Public Speaking, Organizational Communication, Interpersonal Communication, or Argumentation & Debate each semester; led discussions, organized break-out groups, and took full responsibility as instructor of record for a Top 200 university
* Conducted archival research, **digitizing hundreds of analog records for later retrieval** by senior scholars
* **Provided coaching and mentorship services** to the speech and debate team, and participated in student government; contributed to driving internal departmental decision- making

Projects

**Mask Data Set**: February 2021, completed. Data set collecting publicly available marketing data on masks advertised as having a connection with the “FDA” government agency in the United States, combined with a list of actually approved FDA medical masks, for fraud detection and comparison. Available at <https://github.com/EllieLockhart/US-FDA-EUA-Masks---Marketing> and at <https://www.kaggle.com/ellielockhart/us-fda-eua-masks-amazon-marketing>. Assembled with Python, PostgreSQL, and proprietary data gathering technology.

**Controversial Reviews Data Set:** ongoing since July 2020, initial data processing completed. Data set and research project aiming to study product reviews of entertainment media (video games & theatrical films) which have been subjected to online public-opinion manipulation campaigns, with the goal of developing an algorithm to help review-dependent companies determine if a review is organic consumer opinion or influenced by organized disruption/fraud. Cleaned data available at <https://github.com/EllieLockhart/Metacritic---Rotten-Tomatoes-Controversial-Reviews-Dataset> and at <https://www.kaggle.com/ellielockhart/metacritic-rotten-tomatoes-controversial-reviews>. Assembled with Python, TypeScript, PostgreSQL, Neo4j, Scala, & Microsoft Azure Data Factory.

**VagueContent**: ongoing since November 2020. Project to develop a content sharing system for a wide variety of user content and provided algorithmic discovery and tagging so that users can find content that interests them. Currently being developed using .NET, TypeScript, and CouchDB, with analytics to be added in Scala, and intended for test deployment on Microsoft Azure. To be released under BSD license.

*Open Source Contributions to Others’ Projects* – GitHub Commits Accepted:  
adbar/trafilatura – merged September 3, 2020

ellisonleao/magictools – merged September 8, 2020

Publications

**Observer Interview (2020):** interviewed by reporter Noah Berlatsky regarding statistical issues in the marketing of films that represent diverse groups, reflecting an ongoing data science research project I am still pursuing and for which I am developing wider applications.   
*Location:* <https://observer.com/2020/09/lgbt-film-representation-data-ellie-lockhart/>  
**Argumentation & Advocacy (peer reviewed paper, published by Taylor & Francis Group, 2017):** Engaged with the need to integrate scientific and data-driven methods with all disciplines of academia.   
*Location:* <https://www.tandfonline.com/doi/abs/10.1080/00028533.2014.11821824?journalCode=rafa20> **First Amendment Studies (peer reviewed paper, published by National Communication Association, 2016):** An analytical paper describing the regulatory issues surrounding dealing with controversial topics in instructional settings.  
*Location:* <https://nca.tandfonline.com/doi/abs/10.1080/21689725.2016.1232623>**Doctoral Dissertation (2015):** In-depth research study into the dynamics of online "nerd" culture, **utilizing data gathered from Twitter** and other social media sources.  
*Location:* <http://oaktrust.library.tamu.edu/handle/1969.1/155516?show=full>