ALLISON M. TOWEY

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EDUCATION

The University of Chicago, 2023
Master of Arts in Computational Social Science, GPA: 4.00/4.00

The University of Notre Dame, 2019
Bachelor of Arts in Political Science, *magna cum laude* and *Phi Beta Kappa,* GPA: 3.91/4.00

PROFICIENCIES & COURSEWORK

- *Technical Proficiencies:* Python, R, Stata, SQL, AWS, SciKit-Learn, TensorFlow, SpaCy, CausalML, Spark/PySpark, Snowflake, QGIS/ArcGIS, GeoDa, HTML/CSS, Vue.JS, Github, JavaScript, D3.JS
- *Coursework*: Computer Science I and II, Machine Learning, High Performance Computing, Network Analysis, Mathematics for ML, Data Visualization, Advanced Causal Inference, Spatial Data Science, Natural Language Processing (NLP)

RELEVANT EXPERIENCE

Data Scientist | Presidential Management Fellow, *National Oceanic and Atmospheric Administration*, 2023 – Present
- Implements innovative data models and natural language processing solutions of hiring and employee survey data in Python to optimize human resources operations, enhancing talent acquisition and employee retention and communicates findings to non-technical stakeholders to drive engagement
- Designs, builds, and maintains four widely-used Tableau dashboards for use in monitoring employee attrition, diversity, annual survey, and workforce profile metrics across the organization using simultaneous SQL queries to validate static and dynamic data and producing advanced, interactive chart visualizations

Education Policy Analyst, Legislative Data, *Curriculum Associates*, 2020 – 2023 (*Full-Time*: 2020-21, 23/ *Half-Time*: 2021-23)
- Conducted comprehensive research on educational legislation and political landscapes across all 50 states and presented findings, including insights into recent state and local elections, to regional vice presidents and senior leadership
- Performed advanced query techniques to systematically retrieve, clean, and analyze legislative data, highlighting its implications for school districts and aligning with company priorities, ultimately contributing to an understanding of the educational landscape and potential strategies for improving student outcomes using company products

Data Science Intern, *Warner Bros Discovery*, 2022
- Performed data manipulation and utilized machine learning approaches (Random Forest and xgBoost) in Python to model 3000+ HBOMax programs' viewership trends using SQL relational databases in a cloud-based environment
- Analyzed ticket sales and attendance trends for theatrical shows; built data visualizations in GGPlot, R-Shiny, and D3.JS and communicated findings to technical and non-technical leadership to inform decisions about extending show runs on Broadway

TA for Computer Science I & II, & Big Data & High Performance Computing, *University of Chicago*, 2022 – 2023
- Designed and led laboratory sessions, held private and group tutoring sessions, answered over 250 online student questions, and supported the professors in conducting class and grading assessments for all three core technical courses for the program
- Covered topics such as introductory Python basics, Object-Oriented Programming, recursion, NumPy/Pandas, and simple modeling techniques and algorithms in CS I, web-scraping, relational databases, record linkage, data visualization, and modeling in CS II, and Cloud Computing, Amazon Web Services (AWS), Spark/PySpark, and API development in BD/HPC

Associate Product Manager, *Curriculum Associates*, 2019 – 2020
- Interfaced with technical and non-technical staff about the development of Ed-Tech instructional materials that drive student success and engagement and make classrooms better places for teachers and students
- Coordinated and oversaw the development and release of key digital accessibility feature sets (keyboard navigation, screen reader support, and closed captioning) by prioritizing the team's software engineering efforts.

TECHNICAL PROJECTS & RESEARCH

Data Visualization: Alcohol and Ukrainian Women's Experiences of Intimate Partner Violence, 2023 link
- Analyzed and visualized data from the 2007 Demographic and Health Survey in Ukraine to understand the relationship between frequency of alcohol consumption and women's experiences of intimate partner violence.

Women in Politics and Misogynistic Twitter Mentions, 2022 link
- Led a team to classify tweets as targeted at female politicians by scraping over 400,000 tweets tagging women in US Congress and Senate in the week leading up to the 2020 election and using a BERT Topic Modeling process.

ACADEMIC HONORS & ACTIVITIES

Quadrangle Scholar Research Award; Divisional Fund for Applied Research Scholarship, *University of Chicago, 2021-2022*
Departmental Honors, Pi Sigma Alpha (Political Science); Gamma Kappa Alpha (Italian Studies), *University of Notre Dame, 2019*
Undergraduate Thesis Research and Authorship, Political Science, *University of Notre Dame*, *2018-2019*