

# Sue-Ellen Duffy

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**Professional Objective:** To contribute to an innovative, collaborative work environment by leveraging data collection and analysis to drive meaningful insights, while understanding and addressing the unique barriers faced by changemakers, healers, educators, advocates, and the communities they serve.

## Education

### **Master of Science in Data Analytics and Computational Social Science**

University of Massachusetts Amherst | Dec 2024 | GPA: 4.0

Relevant Courses: Machine Learning, Advanced Data-Driven Storytelling, Text as Data, Social Networks, Program and Policy Evaluation, Independent Study: Argument Analysis, Introduction to Quantitative Analysis, Data Science Fundamentals, Research Design, Survey Research Methods

### **Certificate: Social Justice Mediation**

Vital Village Social Justice Mediation Institute | Dec 2020

### **Bachelor of Science in Public Health: Community Engagement & Education**

University of Massachusetts Amherst | May 2013 | GPA: 3.7

## Related Work Experience

### **State of Maine, Office of Behavioral Health | Data Analyst and Project Coordinator | 02/2024 - 10/2024**

- Led a team of analysts, grant managers, and programmers to develop a pilot patient matching system, successfully matching over 100,000 patients across disparate datasets.
- Spearheaded data integration efforts for substance use treatment initiatives, enhancing data accessibility and decision making.
- Developed data governance strategies to ensure data accuracy, security, and usability of integrated health records.
- Assisted in data acquisition, cleaning, and analysis to support technology team development.
- Collaborated with stakeholders to align analytics strategies with organizational objectives.

### **Abt Associates, Cambridge, MA | Freelance Data Collector & Assessor | 2018 - 2023**

- Conducted 100 classroom observations and coded behaviors, learning settings and academic focus of 3.5-5.5 year olds and their teachers.
- Scheduled and conducted 150+ activity-based assessments with elementary students throughout Massachusetts.
- Followed strict protocol in order to be code-reliable with master coders and maintain data integrity.
- Engaged with parents via phone, text, and email to support study participation.

### **Jewish Vocational Services, Boston, MA | Academic Services Researcher | 02/2019 - 12/2019**

- Developed data-driven protocols and conducted research to analyze factors influencing community college stop-out rates among non-traditional students.
- Designed surveys and conducted 20 interviews for qualitative analysis utilizing emergent themes.
- Conducted a literature review on college retention in non-native English speaking/ non-traditional communities.
- Reported research findings to executive leadership and funding partners, influencing curricular changes and structural adaptations to improve outcomes.

### **Harvard Graduate School of Education, Cambridge, MA | Research Assistant | 09/2018-12/2018**

- Conducted 50+ structured activity-based assessments with students P-3 throughout Boston Public School systems.
- Assessed cognitive and behavioral skills and submitted data findings to team leaders.

**Fair Foods, Boston, MA** | Data Collector & Community Engagement Lead | 02/2016-09/2018

- Developed and executed data collection strategies for food accessibility programs.
- Conducted surveys and qualitative interviews to assess community food needs.
- Managed and coordinated volunteers, overseeing logistics and task assignments while building relationships with community members across language and cultural lines.
- Partnered with stakeholders to improve food accessibility initiatives.

**UMass Alliance for Community Transformation, Amherst, MA** | Facilitation Trainer | 06/2013-12/2014

- Co-developed training program for university students conducting peer-facilitated courses.
- Trained 60 student facilitators through seven accredited courses and seven program specific workshop series through anti-oppression and social justice education methodology.
- Critiqued and advised on social justice curriculum, objectives, and lesson plans.
- Conducted qualitative analysis research of partner organizations to improve future training programs.

## **Core Competencies**

R Programming, ArcGIS, Google Colab, Tableau, Microsoft Excel  
Data Cleaning and Preparation, Qualitative and Quantitative Data Analysis, Text Mining, Survey Analysis,  
Machine Learning, Data Visualizations  
Relationship Building, Conflict Resolution, Flexibility and Adaptability

## **Master's Program Project Work**

Machine Learning | Predicting Stroke with Synthetic Data

- Predicted stroke in a synthetic sample of electronic health records, meant to represent people ages 30-70 from Massachusetts.

Argument Analysis | *Reddit Vaccine Discourse: Cross-Vaccine (HPV, MMR, COVID), Cross-Time (2005-2023)*

- Analyzed online vaccine hesitancy trends using NLP and network analysis.

Program Evaluation | Syringe Service Program (SSP) Evaluation Plan

- This evaluation has been designed to determine the effectiveness of Syringe Service Programs (SSPs) in reducing instances of HIV infection in people who use drugs (PWUD) in Maine, tracking trends in infection rates pre and post-implementation of SSPs, and examining whether PWUD participating in syringe distribution services at SSPs seek additional services, like peer services, at a higher rate than those that do not utilize SSPs.

Social Networks | Exploring Relationships and Centralities in Healthcare Networks of People Who Use Drugs (PWUD)

- This project serves as a template for future analysis on patient-provider encounters of people who use drugs (PWUD).

Text as Data | Can We Trust The Stars? - A Sentiment-Based Exploration of Glassdoor Reviews in US Companies with Unlimited PTO Policies

- This project analyzes Glassdoor reviews from U.S. companies offering unlimited paid time off, using sentiment-based text analysis to compare employees' written reviews with their star ratings, assessing overall alignment and satisfaction related to PTO.

Data Science Fundamentals | Boston Crash Trends 2012-2022

- Exploratory data analysis on car crash data in Boston from the Massachusetts Department of Transportation using R programming.