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
> Relevant Courses: Epidemiology in Public Health, Principles of Public Health Practice, Global Health in Developing World, Youth Health, Debating Medical Ethics, Health Care For All, Nutritional Anthropology, Principles of Community Health Education, Critical Pedagogy

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 (JVS), 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

Health Informatics: Electronic Health Records (EHR), Medicare/Medicaid Claims Data, Synthetic Data
Programming Languages: R, Microsoft Excel, Google Colab, ArcGIS, Tableau, Python
Analysis Skills: Data Cleaning and Preparation, Qualitative and Quantitative Data Analysis, Text Mining, Survey Analysis, Machine Learning, Data Visualizations
Program Evaluation: Health care Program Evaluation, Data Driven Health Assessments
Soft Skills: Relationship Building, Conflict Resolution, Flexibility and Adaptability, Research and Data Storytelling

Master's Program Projects

Machine Learning | Predicting Stroke with Synthetic Data
- Predicted stroke using a synthetic sample of electronic health records (EHR), meant to represent people ages 30-70 from Massachusetts using machine learning.

Argument Analysis | *Reddit Vaccine Discourse: Cross-Vaccine (HPV, MMR, COVID), Cross-Time (2005-2023)*
- Analyzed online vaccine hesitancy trends using natural language processing (NLP) to explore the "spillover effect" of COVID-19 vaccine attitudes on other vaccines, based on a Reddit corpus. This ongoing research is in collaboration with UMass researchers and is in the pre-publication stage.

Program Evaluation | Syringe Service Program (SSP) Evaluation Plan
- Developed a program evaluation for assessing the impact of Syringe Service Programs (SSPs) on reducing HIV rates and improving health outcomes for people who use drugs (PWUD), with a focus on data-driven decision-making for state-funded harm reduction programs.

Social Network Analysis | Exploring Relationships and Centralities in Healthcare Networks of People Who Use Drugs (PWUD)
- Explored healthcare journeys of people who use drugs (PWUD) using synthetic electronic health records (EHR), mapping their patient, provider relationships.The average recovery journey for a PWUD lasts over ten years and involves 6 treatment episodes. This project serves as an introduction to understanding patient-provider encounters of PWUD and as a template for future analysis.

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

- Conducted sentiment-based text analysis to compare employees' written reviews with their star ratings, evaluating alignment and satisfaction regarding paid time off.

Data Science Fundamentals | Boston Crash Trends 2012-2022
- Performed exploratory data analysis on car crash data in Boston from the Massachusetts Department of Transportation, marking my first experience using R for data coding and analysis, with a focus on basic exploratory techniques.