

Zachary Levonian

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data science | human-computer interaction | natural language processing | ML

Data scientist, research engineer, and expert in applied ML/NLP. 7+ years building AI-powered systems using human-centered design. I combine quantitative and qualitative techniques to **understand, improve, and create** complex systems.

Education

Ph.D., Computer Science, University of Minnesota *Sept. 2022*

- Dissertation: Facilitating online peer relationships for health-related social support
- Awarded the Doctoral Dissertation Fellowship (1 year, 2021). Research: peer recommendation.

B.A., Computer Science, Carleton College *June 2014*

- *Magna cum laude*. Awarded distinction in capstone project.

Experience

CaringBridge, Data Science Intern *Jun. 2021 – Aug. 2021*

- Implemented first-in-org machine learning pipelines for user data.

Amazon, Applied Scientist Intern *Sept. 2020 – Dec. 2020*

- Designed interactive interface for data annotation and compared full-text search methods.

University of Minnesota, Research Assistant *Sept. 2017 – July 2022*

- Methods: recommender systems, classification, regression, SNA, embeddings, survey design, qualitative content analysis, interviews, value sensitive design, user studies, survival analysis.

MITRE, Computer Scientist *Jan. 2015 – July 2017*

- Compared statistical NLP methods in the Early Career Research Program (1 year award, 2016).

General Dynamics Mission Systems, Software Developer *Oct. 2014 – Jan. 2015*

Publications

Led research projects with interdisciplinary teams (2015-2022). Refereed publications:

1. **Levonian**, Lee, Murdock, Harper. "Trade-offs in Sampling and Search for Interactive Text Classification." IUI, 2022.
2. **Levonian**, Dow, Erikson, Ghosh, Miller Hillberg, Narayanan, Terveen, Yarosh. "Patterns of Patient and Caregiver Mutual Support Connections in an Online Health Community." CSCW, 2020.
3. **Levonian**, Erikson, Luo, Narayanan, Rubya, Vachher, Terveen, Yarosh. "Bridging Qualitative and Quantitative Methods for User Modeling: Tracing Cancer Patient Behavior in an Online Health Community." ICWSM, 2020.
4. Smith, **Levonian**, Ma, Giaquinto, Lein-McDonough, Li, O'Connor-Von, Yarosh. "I Cannot Do All of This Alone': Exploring Instrumental and Prayer Support in Online Health Communities." TOCHI, 2020.
5. Miller Hillberg, **Levonian**, Kluver, Terveen, Hecht. "What I See is What You Don't Get: The Effects of (Not) Seeing Emoji Rendering Differences across Platforms." CSCW, 2018.
6. Chen, Kopald, Chong, Wei, **Levonian**. "Readback Error Detection using Automatic Speech Recognition." ATM, 2017.
7. Chen, Kopald, Elessawy, **Levonian**, Tarakan. "Speech Inputs to Surface Safety Logic Systems." DASC, 2015.

Leadership, Mentorship, and Outreach

Mentor: Direct mentor for 20+ undergraduate and MS students. UMN REU mentor (2019, 2021).

Presented four student posters at CSCW 2018 & 2020. Outstanding Poster Award (CSCW 2020).

Technical Reviewer: ICWSM (2019-2022), CSCW (2020-2022), WWW (2021-2022), CHI (2022).

Communicator: Blogging (zwlevonian.medium.com), student panels, talks, guest lectures.

Organizer: 2x seminar series. 2x undergraduate workshops on NLP methods for HCI researchers.

Programming Skills

Languages: Java, Python, R, SQL, Bash, JavaScript, Awk, Clojure, Lua, C, C#, Objective C, Scheme

Frameworks & packages: PyTorch, Pandas, Matplotlib, scikit-learn, Hadoop MapReduce, Spark,

SpaCy, React, AWS (S3, EC2), Transformers, Dash, NLTK, gensim, fast.ai, networkx, statsmodels

Tools: Jupyter, Vim, Git, VW, VS Code, LaTeX, SQLite, MySQL/MariaDB, MongoDB, Linux (various)