DANIEL JOHNSON

Farmington, UT ◇ 206-963-2274 ◇ d.johnson@utah.edu

EDUCATION

University of Utah *Expected 2028*
Ph.D. in Computer Science

Brigham Young University *2014*
M.S. in Computer Science

Brigham Young University *2011*
B.M. in Music Performance
Minor in Computer Science

PUBLICATIONS

[1] Daniel Johnson and Dan Ventura. Musical Motif Discovery in Non-musical Media. *Proceedings of the 5th International Conference on Computational Creativity*, pages 91–99, 2014.

[2] Daniel Johnson and Dan Ventura. Musical Motif Discovery from Non-Musical Inspiration Sources. *Computers in Entertainment*, 14(2):1–22, December 2016.

[3] Aurora Tulilaulu, Matti Nelimarkka, Joonas Paalasmaa, Daniel Johnson, Dan Ventura, Petri Myllys, and Hannu Toivonen. Data Musicalization. *ACM Transactions on Multimedia Computing, Communications, and Applications*, 14(2):1–27, May 2018.

EXPERIENCE

University of Utah 2024 - Present
Computer Science Ph.D. Student and Researcher *Salt Lake City, UT*

- Researching time-series machine learning and its application to healthcare.
- Performing experiments using Gaussian processes (GPs), operator learning (DeepONet), and diffusion models (DDPM).

Meta 2022 - 2023
Software Engineer *Menlo Park, CA - Remote*

- Built Facebook comment ranking interventions utilized at a massive scale using machine learning and statistics.
- Trained and launched a multilingual long short-term memory (LSTM) recurrent neural network and utilized it in comment ranking to achieve a 6% statistically significant drop in negative moderation.
- Designed and implemented a suite of regression detection tools for detecting and analyzing comment ranking regressions, detecting 3 regressions within the first month.
- Modernized caching system for signals with >30K queries per second, resulting in improved performance.

Medidata Solutions 2021 - 2022
Senior Engineer, Data Science *New York, NY - Remote*

- Collaborated with data scientists to configure and deploy XGBoost models in AWS to help clients predict the feasibility of proposed clinical trials.
- Redesigned and implemented changes for a large ML pipeline using AWS SageMaker Async Endpoint resulting in 5x to 30x speed improvement; published an article on the AWS Machine Learning Blog.
- Implemented tracing between multiple Clojure services and Python Lambda functions using OpenTelemetry, giving engineers a 2x speed improvement in diagnosing network issues using Sumo Logic.
- Set up continuous deployment of a new module written in R using CloudFormation and Artifactory, giving clients the ability to override ML predictions for improved customization.

Clearwater Analytics 2018 - 2021

Software Development Engineer *Boise, ID*

- Used Clojure and Python to build ML features and expose REST endpoints for automatic PDF parsing.
- Increased F1 score from 80% to 95% in NLP document tagging pipeline using Python / Keras, improving confidence and reliability for the product.
- Maintained a Java ETL pipeline for gathering and transforming data from over 40 sources to support streamlined consumption from various teams via REST API calls.

Microsoft 2014 - 2018

Software Engineer I, II *Redmond, WA*

- Built new applications and features to support Windows Insider experiences, Windows Defender, and Microsoft Office.
- Implemented client features and server REST APIs for the Windows Feedback Hub app using XAML and C#, enabling Microsoft to communicate with millions of Windows Insiders.
- Instrumented telemetry in C++, aggregated event data for over 1 billion devices using Scope and created reports with Power BI; added alerts for incidents, helping the Windows Defender team quickly respond to issues.
- Created data visualization tools using TypeScript and SQL, allowing leaders to make quicker release decisions based on Windows health.
- Helped design a central notification system for all Microsoft Office applications to help Microsoft communicate with users at the best time on the optimal surface.