David L. Nielsen

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Education

University of Washington, Seattle, Washington — Currently enrolled

- Student in the Computational Linguistics Masters' program.
- Adding Natural Language Processing to my machine learning repertoire.

Reed College, Portland, Oregon — August 2008-May 2011

- B.A., Mathematics, GPA 3.48
- Senior thesis: *The Problem of Zarankiewicz* is a mathematical puzzle concerning the number of shared connections between two groups. I was able to discover and prove a new lower bound for certain cases of the problem.

Work Experience

Tura.io, Portland, Oregon

Software Architect, Sept 2017 to present

- I am leading our work designing a library for complex pattern recognition in real-time IoT data streams.
- We are building a platform that will store, manage, recall and re-evaluate the output from this pattern recognition in a scalable cloud environment.
- We follow agile software developing practices and develop primarily in Python Virtual Environments on Ubuntu and use Docker to containerize our platform.

Intelligent Systems Division, NASA Ames Research Center, California

Research Engineer II, **MORi Associates, Inc.** Sept 2015 to Oct 2016

Research Engineer I, **MCT, Inc.** Feb 2013 to Sept 2015

- I worked in the Data Sciences group to tackle the problem of discovering, explaining and predicting safety and operational incidents in aviation through the use of data mining and machine learning techniques.
- I created novel anomaly detection algorithms to discover and investigate landings at four of the largest US airports. These algorithms improved upon the state of the art machine learning techniques and the results were published in IEEE Digital Avionics Systems Conferences and 2016 IEEE World Congress on Computational Intelligence.
- We developed using the Python scientific stack (NumPy, SciPy, Scikit-Learn) in a Linux environment with git for version control. I also built Shell Scripts for data management on our local network.

Department of Biomedical Engineering,
Oregon Health and Science University, Portland, Oregon

Research Assistant July 2011 to June 2012

- Collaborated with Dr. Todd Leen on perturbation methods for statistical analysis of neural modeling.
- By applying these techniques we were able to approximate both online learning algorithms and electric pulses generated by fish which much higher confidence that before, leading to the publication of peer-reviewed journal articles

References available upon request.