Laurel Hart

Software Engineer & Computational Linguist

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Experience

2018 **Natural Language Processing Specialist**, *Woebot Labs, Inc.*, San Francisco, CA.

- Improved Natural Language Understanding in the Woebot mental health chatbot
  - Created data collection and annotation strategy
  - Trained, evaluated, and deployed language models for classification
- Applied expertise in chatbot conversational design to existing product
  - Identified common pitfalls and suggested and implemented solutions
  - Conducted analysis of how natural language understanding issues affect retention during app onboarding
- Assisted in creation of new chatbot authoring environment for use by non-technical users

2015—2017 **Artificial Intelligence Engineer**, *PullString, Inc. (formerly ToyTalk, Inc.)*, San Francisco, CA.

- Worked on *PullString Author*, a software platform for authoring human-fidelity AI conversation
- Designed, implemented, and improved Natural Language Processing features
  - Features included negation detection, number conversion, user and author input normalization
- Established large-scale testing to support data-driven decision-making
- Collaborated with technical and non-technical peers on product features
  - Expressive word/pattern matching syntax for use by non-technical users
  - Natural Language Processing and Machine Learning -based synonym and phrase suggestion

2014 **Research Assistant**, *University of Washington - CSE*, Seattle, WA.

- Created a Java training data pipeline for multi-linguistic relation extraction system, MultiR
- Worked with large corpora:
  - Gigaword English, Spanish, and Chinese corpora: over 9 million documents
  - Freebase: currently over 2 billion facts
- Utilized Stanford's CoreNLP package for tokenization, Named Entity Recognition, parsing, etc.

Education

2018 **Deep Learning Specialization**, *deeplearning.ai*, Coursera.

- Self-motivated continuing education
- 5 courses: Neural Networks and Deep Learning; Improving Deep Neural Networks; Structuring Machine Learning Projects; Convolutional Neural Networks; Sequence Models

2013—2014 **Professional Master of Science in Computational Linguistics**, *University of Washington*, Seattle, WA.

- Completed intensive, graduate-level program in 1 year
- Focused on Natural Language Processing (NLP), Machine Learning (ML), and language modeling
  - Specific topics included Machine Translation, Information Retrieval, and Question Answering

2009—2013 **Bachelor of Arts in Applied Linguistics**, *Portland State University*, Portland, OR.

- Minor in Computer Science
- Honors College, undergraduate thesis: "The Linguistics of Sentiment Analysis"

Technical skills & selected projects

ML kNN, Decision Trees, Naïve Bayes, MaxEnt, and SVM (Python)

NLP HMM-based Part-of-Speech tagger, Word Sense Disambiguation system, CKY parser, tokenization, Context Free Grammars incorporating features and semantic representations

Languages Python, C++, Java

Tools Jupyter, FastText, TensorFlow, NLTK, spaCy, Stanford CoreNLP, Git, Mercurial, Bash, LaTeX

Publications

2013 Hart, Laurel "**The Linguistics of Sentiment Analysis**" Portland State University *PDX Scholar*. 2013: http://pdxscholar.library.pdx.edu/honorstheses/20