

- INTERESTS** Computer Vision, Natural Language Processing, and Machine Learning.
- EDUCATION**
- University of Washington (UW)**, Seattle, WA
 Ph.D. candidate, Computer Science and Engineering. **Sep. 2016** - expected **2022**
 Advisor: Yejin Choi.
- Harvey Mudd College (HMC)**, Claremont, CA
 B.S. Computer Science and Mathematics, High Distinction. **Sep. 2012** - **May 2016**
 Graduated with honors in Computer Science and in Mathematics.
- Budapest University of Technology and Economics**, Budapest, Hungary
 Semester abroad. **Spring 2014**
- RESEARCH EXPERIENCE**
- MultiComp Lab** - CMU Language Technologies Institute Pittsburgh, PA
 NSF REU Student Researcher **May 2015** - **Aug. 2015**
Lab applying machine learning to better understand multimodal human communication.
- Developed a novel machine learning algorithm for structured multilabel regression, integrating deep learning and graphical models.
 - Investigated the temporal nature of human gestures (such as smiling, frowning, etc.).
- MultiComp Lab** - USC Institute for Creative Technologies Los Angeles, CA
 NSF REU Student Researcher **June** - **Aug. 2014**
- Classified the sentiment of multimodal movie reviews using an approach combining the visual, audio, and linguistic modalities.
 - Helped develop a pipeline for expanding our YouTube dataset using speech-to-text alignment algorithms, automatic speech recognition, and Amazon Mechanical Turk.
- Dresch-Drewell Lab** - HMC Math and Biology Departments Claremont, CA
 HHMI Student Researcher **Mar.** - **July 2013**
Lab studying embryonic development through computational and biological methods.
- Designed and implemented a novel machine learning approach to help predict the binding locations of regulatory proteins.
 - Achieved good results on several proteins, and shed insight onto their structure.
- PUBLICATIONS**
1. **R.G. Zellers**, R.A. Drewell, and J.M. Dresch (2015) “MARZ: an algorithm to combinatorially analyze gapped n-mer models of transcription factor binding.” *BMC Bioinformatics* 16:30.
 2. J.M. Dresch, **R.G. Zellers**, D.K. Bork, and R.A. Drewell, “Nucleotide interdependency in transcription factor binding sites in the Drosophila genome.” *Gene Regul Syst Bio.* 2016 Jun 12;10:21-33

3. A.B. Zadeh, **R. Zellers**, E. Pincus, L.-P. Morency, “MOSI: Multimodal Corpus of Sentiment Intensity and Subjectivity Analysis in Online Opinion Videos.” arXiv preprint arXiv:1606.06259

HONORS AND
AWARDS

- NSF Fellowship** **Fall 2016 - Spring 2019**
A fellowship providing \$46,000/year “for the graduate education of individuals who have demonstrated their potential for significant research achievements in STEM and STEM education.”
- ARCS Recruitment Fellowship** **Fall 2016 - Spring 2019**
A \$17,500 award for incoming students at the UW CSE department.
- Don Chamberlin Research Award** **May 2016**
“This award annually recognizes a graduate or graduates judged by the [HMC CS] Department faculty to have successfully completed a significant piece of computer science research. The award honors Don Chamberlin, HMC ’66, who was a co-creator of SQL, the standard language for accessing and manipulating databases.”
- William and Wyllis Leonhard Merit Scholarship** **Fall 2015 - Spring 2016**
A \$17,000/year scholarship recognizing HMC students who are leaders on campus as well as high academic performers. Recipients are selected by HMC President Maria Klawe.
- Finalist, **CRA Undergraduate Researcher Award** **Dec. 2014**
This award, sponsored by the Computing Research Association, “recognizes undergraduate students in North American universities who show outstanding research potential in an area of computing research.”
- ARCS Foundation Scholarship** **Fall 2014 - Spring 2015**
A \$10,000/year scholarship from ARCS, supporting undergraduate scientists.
- Honorable Mention, **Goldwater Scholarship** **Mar. 2014**
- Finalist, **National Merit Scholarship** **May 2012**

INDUSTRIAL
EXPERIENCE

- Yelp - Ads Team** San Francisco, CA
Software Engineering Intern **June 2016 - Aug 2016**
- Worked on machine learning models that recommend local businesses that salespeople should sell ads to, and predict which advertising customers are likely to churn.
 - Analyzed the seasonality of Yelp ad sales figures by category of business (ex. Thai restaurant, ski lessons) and how this pertains to model performance.
 - Integrated several seasonality and category features into the model pipeline; among other changes, improved a model predicting customer churn by 10%.
- NOAA Clinic Project - HMC Math Department** Claremont, CA
Team member **Sep. 2015 - May 2016**
- *Estimated parameters for a differential equations model of fish in the Gulf of Alaska.*
 - Helped produce an error orders of magnitude lower than previous efforts.
 - Implemented our parameter estimation library in R, to be run in parallel on a large cluster.

TEACHING
EXPERIENCE

Teaching Assistant, HMC Computer Science Department **Sep. 2013 - May 2016**

- Tutor and grade students; in Spring 2016, for CS140: Algorithms.
- In Nov. 2015, organized a hands-on 2 hour workshop on Deep Learning for students in CS158: Machine Learning and CS151: Artificial Intelligence.

SKILLS

Relevant (HMC) Coursework:

- Computer Science courses taken include Adv. Topics in Algorithms, Algorithms, Artificial Intelligence, Complex Networks, Computer Systems, Data Mining, Data Structures, Natural Language Processing, Programming Languages.
- Mathematics Courses taken include Abstract Algebra, Combinatorial Optimization, Discrete Mathematics, Graph Theory, Intermediate Linear Algebra, Numerical Analysis, Multivariable Calculus, Probability and Statistics, Real Analysis.
- Engineering courses taken include Image Processing, Signals and Systems.

Other skills:

- Experienced programming in Python, Matlab, and C++. Familiarity with C, Java, PostgreSQL, R, and Mathematica.
- Experienced with the Caffe and Theano deep learning libraries.
- Experienced typesetting in \LaTeX , image editing in Photoshop, Illustrator, and OmniGraffle.
- Speak fluent English, proficient Spanish, and basic Hungarian.

MISCELLANEOUS.

- Erdős number of 4 (P. Erdős \rightarrow F. Harary \rightarrow C.C. Leary \rightarrow J.M. Dresch \rightarrow me)
- Enjoy weightlifting, gymnastics, windsurfing, and rock climbing.