Elliot **Schumacher**

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Education

Carnegie Mellon University — *Pittsburgh, PA*

Master of Science in Language Technologies — *Aug. 2015 - Aug. 2017 (Expected)*

- Advisor: Dr. Maxine Eskenazi
- Selected Courses: Machine Learning, Algorithms for NLP, Machine Translation, Language and Statistics, Deep Learning, Semantics
- GPA: 3.68/4.00

Ohio State University — *Columbus, OH*

Bachelors of Science in Computer & Information Science, and Linguistics — *Sep. 2009 - May 2014*

- Degree with Honors, Cum Laude
- Selected Courses: Speech and Language Processing, Computer Vision, Machine Learning
- Overall GPA: 3.64/4.00, Major GPA: 3.72/4.00

Experience

Carnegie Mellon University — *Pittsburgh, PA*

Research Assistant — *Aug. 2015 - Exp. Apr. 2017*

- Research assistant for the DSCoVAR project, a Department of Education Grant to build a Vocabulary Tutoring System, working with Dr. Maxine Eskenazi and Dr. Kevyn Collins-Thompson (University of Michigan).
- Designed and implemented a method of ranking the reading difficulty of a sentence for first language learners, by running a crowd-sourcing task and modeling the data to find important features (see EMNLP 2016 paper).
- Built a pipeline that finds sentences with selected vocabulary words, and annotates them for reading difficulty and other factors.

State Teachers Retirement System of Ohio — *Columbus, Ohio*

Developer — *Jan. 2013 - Aug. 2015*

- Designed and implemented a web application for internal forms using C# webpages and MS Sql Server.
- Designed and implemented a retirement calculator application using C# webpages and MS Sql Server.
- Developed internal applications in Java and Oracle SQL.

Technical Strengths

Skillsets Natural Language Processing, Machine Learning, Crowdsourcing, Software Development

Programming Languages Python, Java, C#, MATLAB, C++

Toolkits sklearn, nltk, dynet

Databases MySQL, Oracle, Microsoft SQL

Publications

EMNLP 2016 (Full Paper) — *Austin, TX*

Predicting the Relative Difficulty of Single Sentences With and Without Surrounding Context — *Nov. 2016*

- E. Schumacher, M. Eskenazi, G. Frishkoff, K. Collins-Thompson. Predicting the Relative Difficulty of Single Sentences With and Without Surrounding Context. Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP 2016). *(Link)*

Technical Reports

A Readability Analysis of Campaign Speeches from the 2016 US Presidential Campaign — *March 2016*

- E. Schumacher, M. Eskenazi. *(Arxiv Link)*.
- **CMU Press Release**: *Most Presidential Candidates Speak at Grade 6 –- 8 Level*
- **Huffington Post**: *Trump's Speeches Are At A Middle-School Reading Level, Study Says.*
- **Washington Post**: *Trump's grammar in speeches 'just below 6th grade level,' study finds.*
- **Pittsburgh Tribune-Review**: *Speeches dip below 6th-grade level, study says.*