

# James Mullenbach

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## Education

- 2017–2018 **M.S. Computer Science**, *Georgia Institute of Technology*, Atlanta, GA, GPA: (Expected) 4.0/4.0.  
Specialization in Machine Learning
- 2012–2016 **B.S. Physics, Computer Science**, *Georgia Institute of Technology*, Atlanta, GA, *Highest Honors*.  
Computer Science specializations: Artificial Intelligence and Media Technologies

## Experience

### Academic

- 2018 **Visiting Research Assistant**, *USC Information Sciences Institute*.  
Developing a new dataset and task and testing various NLP methods covering commonsense, lexical semantics, and language grounding.  
Advised by Jonathan May and Nanyun Peng.
- 2017–2018 **Graduate Research Assistant**, *Georgia Tech Computational Linguistics Lab*.
  - Devising models for automatic ICD coding from clinical discharge summaries.
  - Working on improving model performance for long and complex documents by learning a sparse attention mechanism.
  - Modeling document representations for patients that perform well across several document types. Work in collaboration with Emory University School of MedicineAdvised by Jacob Eisenstein and Jimeng Sun.
- 2015–2016 **Undergraduate Research Assistant**, *Georgia Tech Computational Genomics Lab*.  
Performed thorough data aggregation, cleaning, and statistical analysis towards developing machine learning algorithms to identify genes using ribosome profiling data.  
Advised by Professor Mark Borodovsky.
- 2013–2015 **Undergraduate Research Assistant**, *Georgia Tech School of Physics*.  
Worked primarily on experimental non-linear dynamics in fluid flows, and microscopy and computational tool development for cellular physics.

### Industry

- 2017 **Data Science Intern - Machine Learning**, *Zappos.com*, Las Vegas, NV.
  - Built datasets and engineered features, while creating reusable data cleaning and transformation pipelines, using AWS Redshift.
  - Evaluated several machine learning approaches for classifying user behavior and predicting conversion from clickstream data, identifying appropriate performance metrics.

- 2015–2016 **Software Engineering Intern**, *Urjanet*, Atlanta, GA.
- o Developed, debugged, tested, and deployed various new front- and back-end features for a group of cloud data management microservices.

## Publications

- [1] James Mullenbach, Sarah Wiegrefe, Jon Duke, Jimeng Sun, and Jacob Eisenstein. Explainable prediction of medical codes from clinical text. In *Proceedings of the 2018 Conference of the North American chapter of the Association for Computational Linguistics (NAACL)*, New Orleans, Louisiana, 2018. (Oral presentation).

## Teaching Experience

- Spring 2018 **Teaching Assistant**, *Natural Language Processing*.  
Created, tested, and graded problem sets and held weekly office hours.
- Spring 2017 **Teaching Assistant**, *Natural Language Processing*.

## Skills

- Programming Languages Python, Java, MATLAB, SQL, JavaScript, Scala, C *Decreasing order of proficiency*
- Libraries/tools SciPy stack/pandas, PyTorch, Keras, Spark, AWS, Unix/bash

## Awards

- 2018 **Donald V. Jackson Fellowship**, *Georgia Tech*.  
Awarded annually to one Master's student from each school in the College of Computing.
- 2015, 2016 **President's Undergraduate Research Award**, *Georgia Tech*.  
Funding for semester-long undergraduate research projects.
- 2015, 2016 **McKee Scholarship**, *Delta Sigma Phi*.  
Competitive merit-based scholarship for members of Delta Sigma Phi fraternity.
- 2012-2016 **Faculty Honors**, *Georgia Tech*.  
Awarded for achieving a 4.0 semester GPA.

## Activities & Outreach

- 2016 **FASET Orientation Leader**, *Georgia Tech*.  
Facilitated orientation activities to welcome and acclimate new students to the campus environment.
- 2016 **President**, *Delta Sigma Phi*.  
Oversaw all organization functions, set and maintained alignment towards goals, and led weekly Executive Board and general chapter meetings for over 60 members.
- 2013-2015 **Tour Guide**, *Georgia Tech*.  
Led weekly campus tours to groups of prospective students and their families, tailoring topics to group interests and sharing enthusiasm for the Institute.