# Denis R Newman-Griffis

*Curriculum Vitae*

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Natural Language Processing, Disability and Occupational Health,
Computational Semantics, Biomedical Informatics, Machine Learning

## Publications

*＝equal contributor*

2019   **Denis Newman-Griffis** and Eric Fosler-Lussier. HARE: a Flexible Highlighting Annotator for Ranking and Exploration. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing: Systems Demonstrations*.

2019   **Denis Newman-Griffis**\*, Ayah Zirikly\*, Guy Divita\*, and Bart Desmet. Classifying the reported ability in clinical mobility descriptions. In *Proceedings of BioNLP 2019*, 2019.

2019   Brendan Whitaker\*, **Denis Newman-Griffis**\*, Aparajita Haldar\*, Hakan Ferhatosmanoglu, and Eric Fosler-Lussier. Characterizing the impact of geometric properties of word embeddings on task performance. In *Proceedings of the Third Workshop on Evaluating Vector Space Representations for NLP*, 2019.

2018   **Denis Newman-Griffis** and Ayah Zirikly. Embedding Transfer for Low-Resources Medical Named Entity Recognition: A Case Study on Patient Mobility. In *Proceedings of BioNLP*, 2018.

2018   **Denis Newman-Griffis**, Albert M Lai, and Eric Fosler-Lussier. Jointly Embedding Entities and Text with Distant Supervision. In *Proceedings of the 3rd Workshop on Representation Learning for NLP (Repl4NLP)*, 2018.

2017   Thanh Thieu, Jonathan Camacho, Pei-Shu Ho, Julia Porcino, Min Ding, Lisa Nelson, Elizabeth Rasch, Chunxiao Zhou, Leighton Chan, Diane Brandt, **Denis Newman-Griffis**, Ao Yuan, and Albert M Lai. Inductive identification of functional status information and establishing a gold standard corpus: A case study on the Mobility domain. In *2017 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2017.

2017   **Denis Newman-Griffis**, Albert M Lai, and Eric Fosler-Lussier. Insights into Analogy Completion from the Biomedical Domain. In *Proceedings of the 16th Workshop on Biomedical Natural Language Processing (BioNLP)*, 2017.

2017   **Denis Newman-Griffis** and Eric Fosler-Lussier. Second-Order Word Embeddings from Nearest Neighbor Topological Features. Pre-print: *arXiv:1705.08488*, 2017.

2016   **Denis R Griffis**, Chaitanya Shivade, Eric Fosler-Lussier, and Albert M Lai. A Quantitative and Qualitative Evaluation of Sentence Boundary Detection for the Clinical Domain. In *Proceedings of the AMIA Summit on Clinical Research Informatics (AMIA-CRI)*, 2016.

## Posters and Presentations

2019   **Denis Newman-Griffis**, Ayah Zirikly, Pei-Shu Ho, Jonathan Camacho Maldonado, Maryanne Sacco, Alex Marr, Albert M Lai, and Eric Fosler-Lussier. Automated classification of mobility activities in free text clinical narratives. Poster presentation, in *Proceedings of the Annual Symposium of the American Medical Informatics Association (AMIA)*, 2019.

2019    **Denis Newman-Griffis**. Kickstarting NLP for whole-person activity information with representation learning and data analysis. Thesis proposal, in *2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Student Research Workshop*, 2019.

2018    **Denis Newman-Griffis**. Natural language processing approaches to extracting patient functioning from clinical data. Invited talk at Stanford University, Center for Population Health Sciences, March 2018.

2018    **Denis Newman-Griffis**, Albert M Lai, and Eric Fosler-Lussier. Jointly embedding biomedical entities and text with distant supervision. Poster presentation, in *Proceedings of the AMIA Informatics Summit*, 2018.

2017    **Denis Newman-Griffis**, Thanh Thieu, Chunxiao Zhou, Diane Brandt, Jonathan Camacho Maldonado, Julia Porcino, Albert M Lai, and Leighton Chan. Characterizing the language of functioning: A corpus analysis illustrating how human function is described in clinical text. Poster presentation, in *Proceedings of the AMIA Summit on Clinical Research Informatics (AMIA-CRI)*, 2017.

## Education

2014–    **PhD student**, *The Ohio State University, Department of Computer Science and Engineering*, Columbus, OH, USA.
Modeling and extracting information regarding patient function from clinical text.
Co-advised by Dr. Eric Fosler-Lussier and Dr. Albert Lai (now of Washington University in St. Louis)

2008–2012    **Bachelor of Arts**, *Carleton College*, City, *Magna cum laude*.
Majors: Computer Science & Russian
- Senior thesis (Computer Science) titled "PIG: Packet Inspection Guru."
- Senior thesis (Russian): translation of Georgiy Demidov's short story, "No Toe Tag," published in the short story collection, "Five Fates from a Wondrous Planet" (2015).

## Teaching/Mentoring

2018–2019    Advising Brendan Whitaker, OSU Mathematics; Research project on properties of language representations that contribute to downstream tasks.
- Brendan awarded 3rd place presenter in Statistical and Mathematical Modeling section of 2019 Ohio State Denman Undergraduate Research Forum.
- Resulted in co-first author paper accepted to RepEval 2019.

Autumn 2017    CSE 3521 - Survey of Artificial Intelligence I: Basic Techniques
*Dept. of Computer Science and Engineering, The Ohio State University*

## Fellowships

2015–    **Pre-Doctoral Fellow**, *National Institutes of Health, Clinical Center*.

## Professional Experience

2012–2014    **Software Developer**, *Fulcrum Software Solutions*, Dublin, OH, USA.
Designed, developed, and deployed applications in the business and healthcare sectors, using the .NET development stack.
- Acted as client contact for design and troubleshooting on multiple projects.

## Service

### Departmental Service

2015–2018 **AI Seminar Coordinator**, *The Ohio State University*, Columbus, OH, USA.
Coordinated bi-weekly seminar series for student presentations on ongoing AI research at Ohio State.

### Reviewer

2019 ACL, AMIA Informatics, AMIA Annual Summit, NAACL Student Research Workshop, BioNLP, EMNLP

2018 ACL, AMIA Informatics, AMIA Annual Summit, COLING, ACL Student Research Workshop

2017 ACL, AMIA Annual Summit, EMNLP

2016 ACL, AMIA Annual Summit

### Other

2014– **Volunteer Judge**, *Ohio State Science Day*.
Judged science fair projects of students grades 5–12.

2016–2017 **President**, *Columbus Symphony Chorus*, Columbus, OH, USA.

## Affiliations

ACL Association for Computational Linguistics

ACM Association for Computing Machinery

AMIA American Medical Informatics Association

ASEE American Society for Engineering Education