

VLAD A. EIDELMAN

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EDUCATION

University of Maryland , College Park, MD	2008-2013
Ph.D. in Computer Science	
M.S. in Computer Science GPA: 3.80	2008-2010
Dissertation: <i>Improved Online Learning and Modeling for Feature-Rich Discriminative Machine Translation</i>	
Advisor: Philip Resnik	
Columbia University , New York, NY	2004-2008
B.S. in Computer Science Minor: Philosophy GPA: 3.84 <i>Magna Cum Laude</i>	
Advisor: Kathleen R. McKeown	

RESEARCH INTERESTS

Natural Language Processing, Machine Learning, Large-Scale Data Analysis, Statistical Machine Translation, Computational Social Science, Explainable Machine Learning

HONORS AND AWARDS

National Defense Science and Engineering Graduate Fellowship (NDSEG)	2010
▪ 200 awarded from 2,600 applicants to individuals who have demonstrated the ability and special aptitude for advanced training in science and engineering	
National Science Foundation Graduate Research Fellowship (NSF GRFP)	2010
▪ 2,000 awarded from 12,000 applicants to individuals selected early in their graduate careers based on their demonstrated potential for significant achievements in STEM	
John D. Gannon Research Award – Computer Science, University of Maryland	2009
▪ 3 awarded to 1 st year Ph.D. students	
Block Grant Fellowship – Computer Science, University of Maryland	2008
Theodore R. Bashkow Award – Computer Science, Columbia University	2008
▪ 1 awarded to Computer Science senior who has excelled in independent projects	
Dean's List – Columbia University	2004-2007
Comcast Leaders and Achievers Scholarship	2004
Maryland Distinguished Scholar Semifinalist	2004

PROFESSIONAL EXPERIENCE

FiscalNote Inc. , Washington, DC	12/2013-present
<i>Vice President of Research</i>	09/2014-present
<i>Senior Principal Scientist</i>	12/2013-08/2014
▪ Lead all stages of research for envisioning, designing, creating, engineering, implementing and communicating a growing set of solutions for analyzing, investigating, interpreting, modeling, and extracting knowledge from mostly unstructured external and internal open and proprietary data related to government, policy, law, news, and social media	

- Projects include entity extraction, graph analysis, keyphrase extraction, clustering, stance detection, sentiment analysis, binary, multilabel, and multiclass classification, sequence labeling, natural language interaction, information retrieval and search
- Hire and manage Data Science team consisting of 4 FTE by designing and executing on recruiting, interviewing, and onboarding process
- Develop and communicate research strategy and team performance metrics, including evaluating quality and performance of algorithms and models, to all departments with an understanding of impact on business
- Collaborate closely with Product and Engineering leadership and teams to drive innovation in product develop roadmap, identify pain points and analysis based solutions, and set guidance for product execution
- Support business development, marketing, investor relations, and partnerships through customer facing interaction, technical due diligence, content, collateral, and prototyping
- Lead patenting strategy and drafting of technical descriptions

University of Maryland, College Park, MD 07/2008-12/2013
Graduate Research Assistant, Department of Computer Science and the Laboratory for Computational Linguistics and Information Processing at the Institute for Advanced Computer Studies

- Conducted research and published papers on a variety of topics in natural language processing and machine learning, including sequence labeling, clustering, topic modeling, and machine translation

Raytheon BBN Technologies, Cambridge, MA 10/2012-07/2013
Speech, Language & Multimedia Technologies Research Intern

- Developed semantically oriented and continuous vector space translation models

Johns Hopkins University, Baltimore, MD 06/2010-08/2010
Graduate Research Assistant, Center for Language & Speech Processing, Summer Workshop on Models of Synchronous Grammar Induction for SMT

- Implemented online large-margin structured learning algorithm for cost-augmented inference

The Johns Hopkins University Applied Physics Laboratory, Laurel, MD 06/2008-08/2008
Applied Information Sciences Department Intern

- Contributed to developing a measurement agent for runtime software integrity verification

Columbia University, New York, NY 01/2007-01/2008
Research Assistant, Natural Language Processing Group

- Created learning algorithm for temporal resolution exploiting article structure and temporal references in text

Johns Hopkins University, Baltimore, MD 05/2007-08/2007
Research Assistant, Center for Language & Speech Processing, Summer Workshop on Exploiting Lexical and Encyclopedic Resources For Entity Disambiguation

- Contributed to the development of BART, the Beautiful Anaphora Resolution Toolkit, a machine-learning based toolkit for coreference resolution

Towson University, Towson, MD 06/2006-08/2006
National Science Foundation Undergraduate Research Fellow

- Explored different statistical models for controlling agent behavior using neural networks

National Security Agency, Linthicum, MD Summer 2003/2004
NSA Gifted and Talented Program Intern

- Experimented with a variety of technology related security topics using software in Unix and Windows environments

- Created and implemented an Intrusion Detection System model

Honeywell TSI, Columbia, MD

09/2003-01/2004

Datalynx Programming Intern

- Developed software for Windows/Unix environments to process and visualize data from satellite transmissions

TEACHING EXPERIENCE

University of Maryland, College Park, MD

Spring 2011

Teaching Assistant, Department of Computer Science, Computational Linguistics II

- Graded homework assignments and exams
- Designed and presented lecture on Maximum Entropy modeling and CRFs

Technology Instruction Corp., Bethesda, MD

06/2005-08/2005

Computer Programming Instructor

- Educated students in AI concepts for game programming in MW Logo, VB, and C++
- Guided students in creating final project in chosen technical language

REFEREED CONFERENCE AND WORKSHOP PUBLICATIONS

17. Y. Hu, K. Zhai, **V. Eidelman**, and J. Boyd-Graber. Polylingual Tree-Based Topic Models for Translation Domain Adaptation. In *Proceedings of the Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics*. Baltimore, MD, 22-27 June 2014
16. Y. Hu, K. Zhai, **V. Eidelman**, and J. Boyd-Graber. Topic Models for Translation Model Adaptation. In *Proceedings of the NIPS 2013 workshop on Topic Models: Computation, Application, and Evaluation*. Lake Tahoe, CA, 9-10 December 2013
15. **V. Eidelman**, K. Wu, F. Ture, P. Resnik, and J. Lin. Towards Efficient Large-Scale Feature-Rich Statistical Machine Translation. In *Proceedings of the Eighth Workshop on Statistical Machine Translation (WMT)*, Sofia, Bulgaria, 8-9 August, 2013
14. **V. Eidelman**, K. Wu, F. Ture, P. Resnik, and J. Lin. Mr. MIRA: Open-Source Large-Margin Structured Learning on MapReduce. In *Proceedings of the 51th Annual Meeting of the Association for Computational Linguistics (ACL)*, Sofia, Bulgaria, 4-9 August, 2013
13. **V. Eidelman**, Y. Marton, and P. Resnik. Online Relative Margin Maximization for Statistical Machine Translation. In *Proceedings of the 51th Annual Meeting of the Association for Computational Linguistics (ACL)*, Sofia, Bulgaria, 4-9 August, 2013
12. **V. Eidelman**. Unsupervised Feature-Rich Clustering. In *Proceedings of the 24th International Conference on Computational Linguistics (COLING)*, Mumbai, India, 10-14 December, 2012
11. **V. Eidelman**, J. Boyd-Graber, and P. Resnik. Topic Models for Dynamic Translation Model Adaptation. In *Proceedings of the 50th Annual Meeting of the Association for Computational Linguistics (ACL)*, Jeju, Korea, 9-11 July, 2012
10. **V. Eidelman**. Optimization Strategies for Online Large-Margin Learning in Machine Translation. In *Proceedings of the Seventh Workshop on Statistical Machine Translation (WMT)*, Montreal, Canada, 7-8 June, 2012
9. **V. Eidelman**, K. Hollingshead, and P. Resnik. Noisy SMS Machine Translation in Low-Density Languages. In *Proceedings of the Sixth Workshop on Statistical Machine Translation*, Edinburgh (WMT), UK, 30-31 July, 2011
8. C. Hu, P. Resnik, Y. Kronrod, **V. Eidelman**, O. Buzek, and B. Bederson. The Value of Monolingual Crowdsourcing in a Real-World Translation Scenario: Simulation using Haitian Creole Emergency SMS Messages. In *Proceedings of the Sixth Workshop on Statistical Machine Translation (WMT)*, Edinburgh, UK, 30-31 July, 2011

7. **V. Eidelman**, Z. Huang, and M. Harper. Lessons Learned in Part-of-Speech Tagging of Conversational Speech. In *Proceedings of the 2010 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Cambridge, Massachusetts, 9-11 October, 2010
6. **V. Eidelman**, C. Dyer, and P. Resnik. The University of Maryland Statistical Machine Translation System for the Fifth Workshop on Machine Translation. In *Proceedings of the Joint Fifth Workshop on Statistical Machine Translation and Metrics MATR (WMT)*, Uppsala, Sweden, 15-16 July, 2010
5. C. Dyer, A. Lopez, J. Ganitkevitch, J. Weese, F. Ture, P. Blunsom, H. Setiawan, **V. Eidelman**, and P. Resnik. cdec: A Decoder, Alignment, and Learning Framework for Finite-State and Context-Free Translation Models. In *Proceedings of the Association for Computational Linguistics (ACL)*, Uppsala, Sweden, 11-16 July, 2010
4. Z. Huang, **V. Eidelman**, and M. Harper. Improving A Simple Bigram HMM Part-of-Speech Tagger by Latent Annotation and Self-Training. In *Proceedings of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, Boulder, Colorado, 1-3 June, 2009
3. **V. Eidelman**. Inferring Activity Time in News through Event Modeling. In *Proceedings of the Association for Computational Linguistics (ACL) Student Research Workshop*, Columbus, Ohio, 16-18 June, 2008
2. Y. Versley, S. Ponzetto, M. Poesio, **V. Eidelman**, A. Jern, J. Smith, X. Yang, and A. Moschitti. BART: A Modular Toolkit for Coreference Resolution. In *Proceedings of the 46th Annual Meeting of the Association for Computational Linguistics (ACL)*, Columbus, Ohio, 16-18 June, 2008
1. Y. Versley, S. Ponzetto, M. Poesio, **V. Eidelman**, A. Jern, J. Smith, X. Yang, and A. Moschitti. BART: A Modular Toolkit for Coreference Resolution. In *Proceedings of the 6th International Conference on Language Resources and Evaluation (LREC)*, Marrakech, Morocco, 28-30 May, 2008

TECHNICAL REPORTS

4. **V. Eidelman**. Unsupervised Feature-Rich Clustering. CS-TR-5019, UMIACS-TR-2012-14, University of Maryland, College Park, December 2012
3. P. Blunsom, C. Callison-Burch, T. Cohn, C. Dyer, J. Graehl, A. Lopez, J. Botha, **V. Eidelman**, T. Nguyen, Z. Wang, J. Weese, O. Buzek, D. Chen. 2010 Language Engineering Workshop Models for Synchronous Grammar Induction Final Report. *Technical Report for CLSP Workshop*, Johns Hopkins University, 2010
2. M. Poesio, D. Day, R. Arstein, J. Duncan, **V. Eidelman**, C. Giuliano, R. Hall, J. Hitzeman, A. Jern, M. Kabadjov, G. Mann, P. McNamee, A. Moschitti, S. Ponzetto, J. Smith, J. Steinberger, M. Strube, J. Su, Y. Versley, X. Yang, and M. Wick. ELERFED : Final Report. *Technical Report for CLSP Workshop*, Johns Hopkins University, 2007
1. **V. Eidelman** and G. Trajkovski. Extension of an Algebraic Model of Cognition to a Congruent Continuous Model. *Technical Report for NSF REU*, Towson University, 2006

JOURNAL ARTICLES

1. G. Trajkovski, G. Stojanov, S. Collins, **V. Eidelman**, C. Harman, and G. Vincenti. Cognitive Robotics and Multiagency in a Fuzzy Modeling Framework. *International Journal of Agent Technologies and Systems*. 1(1):50-73, 2009

PATENTS

1. V. Eidelman and B. Grom. 2014. Systems And Methods For Categorizing And Forecasting Outcome Of Proposed Compliance Documents. U.S. Patent Application 14565372, filed December 9, 2014. Patent Pending.

SERVICE

Program Committee Member

- Association for Computational Linguistics (ACL) 2014, 2015, 2016
- Empirical Methods in Natural Language Processing (EMNLP) 2016
- European Chapter of the Association for Computational Linguistics (EACL) 2014, 2017, Student Research Workshop 2014
- International Conference on Computational Linguistics (COLING) 2016
- International Conference on Language Resources and Evaluation (LREC) 2010, 2012, 2014, 2016
- International Joint Conference on Natural Language Processing (IJCNLP) 2015
- North American Chapter of the Association for Computational Linguistics (NAACL) 2013, 2016

Journal Reviewing

- International Journal of Computer Mathematics (IJCM)
- ACM Transactions on Information Systems (TOIS)
- Computational Linguistics (CL)

University Service

- Computer Science Graduate Student Executive Council (2008-2013)
- Graduate Student Government Computer Science Program Representative (2010-2011)

SKILLS

Languages

- Native: English, Russian
- Beginner: Spanish, German, Turkish

Technologies

- Languages: Python, Perl, C/C++, Java
- Storage: PostgreSQL, MongoDB, S3, Redis, Redshift
- Frameworks: Apache Mesos, Spark, Hadoop, Chronos, AWS
- Tools: scikit-learn, pandas, nltk, theano, keras, git, jira, docker