

Ndapa Nakashole

Computer Science & Engineering
University of California, San Diego
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APPOINTMENTS

University of California, San Diego, CA, USA

Assistant Professor, Jan 2017 –

Carnegie Mellon University, Pittsburgh, PA, USA

Postdoctoral Fellow, Machine Learning Department, 2013 – 2016.

Advisor: Tom M. Mitchell

EDUCATION

Max Planck Institute for Informatics & Saarland University, Germany

Ph.D., Summa cum laude, in Computer Science, 2012. Advisor: Gerhard Weikum

Otto Hahn Medal (Max Planck Society dissertation award)

University of Cape Town, South Africa

B.Sc (2005), B.Sc Honors (2006, First Class) M.Sc (2009, with Distinction)

Major: Computer Science

Oshigambo High School, Namibia

Grade 12 (Cambridge HIGCSE: Biology, Physics, Mathematics, Oshindonga, & English.

IGCSE: Development Studies)

INDUSTRY

Microsoft Research, Redmond, WA, USA

Research Intern, Data Management 04/2011 – 07/2011

IBM Zurich Research, Switzerland

Research Intern, Business Optimization 03/2008 – 08/2008

SELECTED HONORS

- 2022 NSF CAREER Award
- 2019 Hellman Fellow
- 2017 Peggy and Peter Preuss Faculty Scholar
- 2014 Otto Hahn Medal (awarded for PhD dissertation by the Max Planck Society)
- 2012 Best Paper Award Runner Up at the EMNLP 2012 Conference
- 2012 Best Paper Award at the AKBC Workshop
- 2006 DAAD-TUCSIN Undergraduate Scholarship
- 2002, 2003 Class Medals for Computer Science Courses (awarded to top grade in the class)

OUTREACH

- 2021 - Founder of okalai.org whose goal is to teach Artificial Intelligence to young people in Namibia, and other African countries.
- 2021 Organizer, AI reading group for minority undergraduate students
- 2018-2019 Diversity Culture Committee at UCSD Computer Science
- 2017 Judge at the first UCSD Women Programming Hackathon
- 2017-2020 Faculty advisor to the Graduate Women in Computing organization at UCSD

FUNDING

2022 NSF CAREER
 2021 Google Research Gift
 2021 Amazon Research Award
 2020 Adobe Research Gift
 2019-2021 NIH/NIA, Voice Assistants for Healthcare in Aging Populations
 2019 Hellman Fellowship
 2018-2022 NSF Small, Speech-driven Multimodal Querying (co-PI)
 2017 Peggy and Peter Preuss Faculty Scholar

COMPUTING AWARDS

2021 Amazon Web Services
 2019 Amazon Web Services
 2017 NVIDIA GPU
 2017 Amazon Web Services

TEACHING

Introduction to Machine Learning, Okalai Organization, 2022-
 CSE 256: Statistical NLP, Graduate, University of California, San Diego 2017-
 CSE 156: Statistical NLP, Undergraduate, University of California, San Diego 2017-
 CSE 291: Advanced NLP, Graduate, University of California, San Diego 2017 -
 CSE 290: Machine Learning for NLP, Graduate, University of California, San Diego 2019 -
 CSE 259 AI Seminar, Graduate, University of California, San Diego 2017 -
 Ubiquitous Smart Agents (Guest Instructor), Graduate, Carnegie Mellon University, Fall 2015
 Information Retrieval (TA), University of Cape Town, South Africa, 2007- 2008
 Introduction to Programming (High Volunteer Teacher) & Uukule School, Namibia, 2004

STUDENT ADVISING

Ruolan Yang (PhD)	University of California, San Diego	2022-
Letian Peng (PhD)	University of California, San Diego	2022-
Bosung Kim (PhD)	University of California, San Diego	2021-
Yutong Shao (PhD)	University of California, San Diego	2018-
Khalil Mrini (PhD)	University of California, San Diego	2018-2022
Kushal Jain (Msc)	University of California, San Diego	2022
Xinxin Yan (Msc)	University of California, San Diego	2020-2021
Mridul Garg (Msc)	University of California, San Diego	2017
Aditi Mavalankar (Msc)	University of California, San Diego	2017
Gopal Rander (Msc)	University of California, San Diego	2017
Dustin Wright (Msc)	University of California, San Diego	2017
Yihan Wang (Bsc)	University of California, San Diego	2020-2021
Steven Zheng (Bsc)	University of California, San Diego	2017
Leon Cheung (Bsc)	University of California, San Diego	2017
Tue Vo (Bsc)	Carnegie Mellon University	2015

OTHER HONORS

2022	Plenary speaker at the second Pan African Artificial Intelligence Conference
2021	Keynote Speaker at the Workshop on NLP for Positive Impact at ACL 2021
2021	Plenary at the first Pan African Artificial Intelligence Conference
2021	Africa Shapers “80 Women Advancing Artificial Intelligence ”
2021	Best Paper Award Committee, Conference on Knowledge Base Construction (AKBC)
2021	Career Feature in the “The Africa I know” Magazine
2021	Best student paper award at Workshop on NLP for Medical Conversations (K. Mrini)
2020	Adobe Research Gift
2020	Keynote Speaker at the Conference on Automatic Knowledge Base Construction (AKBC)
2019	Keynote Speaker at the Southern California NLP Symposium
2019	Keynote Speaker at the Workshop on Document Intelligence at NeurIPS 2019
2018	Keynote Speaker at the New Forms of Generalization Workshop at NAACL 2018
2018	Panelist at the RepL4NLP Workshop at ACL 2018
2018	Keynote speaker at Women in NLP Workshop at ACL 2017
2009-2012	Max Planck Research School for Computer Science PhD Fellowship
2007-2008	National Research Foundation Africa Scholarship
2006	DAAD-TUCSIN Undergraduate Scholarship
2003-2005	Faculty of Science Merit Entrance Scholarship
2003-2005	Namibia Water Corporation Bursary
2002,2003,2005	Department of Computer Science Merit List (awarded to top 5% of class)

ACTIVITIES & SERVICE

Funding Panels

◇ National Science Foundation (NSF) (3 times): 2020-2021

Conference Organizing Committee

◇ Co-chair of Workshops at Neural Information Processing Systems Conference (NeurIPS): 2021

Area Chair

◇ International Conference on Learning Representations (ICLR): 2021-2022

◇ International Conference on Machine Learning (ICML): 2019-2022

◇ Annual Conference on Neural Information Processing Systems (NeurIPS): 2019-2022

Program Committee Member

◇ Annual meeting of the Association for Computational Linguistics (ACL): 2015 -

◇ Empirical Methods in Natural Language Processing (EMNLP): 2013, 2017,2018

◇ Annual Conference on Neural Information Processing Systems (NIPS): 2016, 2017, 2018

◇ World Wide Web Conference (WWW): 2017

◇ AAAI Conference on Artificial Intelligence (AAAI): 2016, 2017

◇ International Joint Conference on Artificial Intelligence (IJCAI): 2016

◇ North American Chapter of the Association for Computational Linguistics (NAACL): 2016

◇ Workshop on Knowledge Extraction(KET at AAAI): 2016

◇ International Workshop on the Web and Databases (WebDB at SIGMOD): 2015

◇ Workshop on Automated Knowledge Base Construction (AKBC at NIPS): 2014

◇ Workshop on Automated Knowledge Base Construction (AKBC at NAACL): 2016

◇ International Conference on Information and Knowledge Management (CIKM): 2014, 2015

◇ International Conference on Computational Linguistics (COLING): 2014 ,2017

Journal Reviewer

◇ Transactions of the Association for Computational Linguistics (TACL): 2015, 2020-2022

◇ Elsevier Journal of Web Semantics: 2013, 2015

◇ Elsevier Journal of Information Systems (Information Systems): 2015

UNIVERSITY SERVICE

Department Service

◇ Faculty search committee for CSE department Chief Administrative Officer	2022
◇ Committee on Graduate Affairs (GradCom), CSE, University of California, San Diego	2017-2020
◇ Faculty Recruitment Committee, CSE, University of California, San Diego	2019
◇ PhD Admissions Committee, CSE, University of California, San Diego	2017

Theses committees

◇ PhD thesis committee, Andrea Frank, UCSD CSE	2022
◇ PhD thesis committee, Akanimoh Adeleye, UCSD CSE	2022
◇ PhD thesis committee, Hui Shi, UCSD CSE,	2022
◇ PhD thesis committee, Sean Trott, UCSD CogSci,	2022
◇ PhD thesis committee, Jianmo Ni , UCSD CSE	2020
◇ PhD thesis committee, Shuai Tang, UCSD CogSci,	2018
◇ PhD thesis committee, Lin Lin, Tsinghua University	2018
◇ PhD research exam committee, Mengting Wan, UCSD CSE	2018
◇ Msc thesis committee, Edward Wong, UCSD CSE	2018
◇ Msc thesis committee, Rajiv Pasricha, UCSD CSE	2018
◇ Msc thesis committee, Thomas Andy Keller, UCSD Linguistics	2017
◇ PhD thesis committee, Qian Yang, Tsinghua University	2017

Reading group, seminar host

◇ Organizer, AI Reading Group for Undergraduates, UCSD	2021 -
◇ Organizer, AI Seminar UCSD	2017 & 2021
◇ Coordinator, CMU Machine Learning/Google Distinguished Lecture Series: 2014-2016	

PUBLICATIONS

Journal & Conference Publications

1. Mrini, K., H. Singh, F. Deroncourt, W. Chang, E. Farcas, and N. Nakashole (2022). Medical Question Understanding and Answering with Knowledge Grounding and Semantic Self-Supervision. In: *Proceedings of COLING 2022, the 29th International Conference on Computational Linguistics*.
2. Shao, Y., A. Kumar, and N. Nakashole (2022). Structured Data Representation in Natural Language Interfaces. *IEEE Data Eng. Bull.* **45**(3).
3. Mrini, K., F. Deroncourt, S. Yoon, T. Bui, W. Chang, E. Farcas, and N. Nakashole (2021a). A Gradually Soft Multi-Task and Data-Augmented Approach to Medical Question Understanding. In: *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing, ACL/IJCNLP*. Association for Computational Linguistics, pp.1505–1515.
4. Mrini, K., E. Farcas, and N. Nakashole (2021). Recursive Tree-Structured Self-Attention for Answer Sentence Selection. In: *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing, ACL/IJCNLP*. Association for Computational Linguistics, pp.4651–4661.
5. Wang, Y., Y. Shao, and N. Nakashole (2021). Interactive Plot Manipulation using Natural Language. In: *Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies: Demonstrations, NAACL-HLT 2021*, Association for Computational Linguistics, pp.92–98.
6. Mrini, K., F. Deroncourt, Q. H. Tran, T. Bui, W. Chang, and N. Nakashole (2020). Rethinking Self-Attention: Towards Interpretability in Neural Parsing. In: *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: Findings, EMNLP 2020, Online Event*,

- 16-20 November 2020. Vol. EMNLP 2020. Findings of ACL. Association for Computational Linguistics, pp.731–742.
7. Shao, Y. and N. Nakashole (2020). ChartDialogs: Plotting from Natural Language Instructions. In: *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics. (ACL)*.
 8. Wan, M., R. Misra, N. Nakashole, and J. McAuley (2019). Fine-Grained Spoiler Detection from Large-Scale Review Corpora. In: *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics. (ACL)*.
 9. Mitchell, T. M., W. W. Cohen, E. R. H. Jr., P. P. Talukdar, B. Yang, J. Betteridge, A. Carlson, B. D. Mishra, M. Gardner, B. Kisiel, J. Krishnamurthy, N. Lao, K. Mazaitis, T. Mohamed, N. Nakashole, E. A. Platanios, A. Ritter, M. Samadi, B. Settles, R. C. Wang, D. Wijaya, A. Gupta, X. Chen, A. Saparov, M. Greaves, and J. Welling (2018). Never-ending learning. *Communications of the ACM* **61**(5), 103–115.
 10. Nakashole, N. (2018). NORMA: Neighborhood Sensitive Maps for Multilingual Word Embeddings. In: *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
 11. Nakashole, N. and R. Flauger (2018). Characterizing Departures from Linearity in Word Translation. In: *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics. (ACL)*.
 12. Kumar, A., B. Raj, and N. Nakashole (2017). Discovering sound concepts and acoustic relations in text. In: *IEEE International Conference on Acoustics, Speech and Signal Processing, (ICASSP)*, pp.631–635.
 13. Nakashole, N. and R. Flauger (2017). Knowledge Distillation for Bilingual Dictionary Induction. In: *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
 14. Mitchell, T. M., W. W. Cohen, E. R. H. Jr., P. P. Talukdar, J. Betteridge, A. Carlson, B. D. Mishra, M. Gardner, B. Kisiel, J. Krishnamurthy, N. Lao, K. Mazaitis, T. Mohamed, N. Nakashole, E. A. Platanios, A. Ritter, M. Samadi, B. Settles, R. C. Wang, D. T. Wijaya, A. Gupta, X. Chen, A. Saparov, M. Greaves, and J. Welling (2015). Never-Ending Learning. In: *Proceedings of the Twenty-Ninth AAAI Conference on Artificial Intelligence, (AAAI)*, pp.2302–2310.
 15. Nakashole, N. (2015). Composite Events: A Fact-based Representation. In: *Proceedings of the 2015 iConference*.
 16. Nakashole, N. and T. M. Mitchell (2015). A Knowledge-Intensive Model for Prepositional Phrase Attachment. In: *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics, (ACL)*, pp.365–375.
 17. Wijaya, D. T., N. Nakashole, and T. M. Mitchell (2015). Learning State Changing Verbs from Wikipedia Revision History. In: *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
 18. Nakashole, N. and T. M. Mitchell (2014). Language-Aware Truth Assessment of Fact Candidates. In: *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL)*, pp.1009–1019.
 19. Wijaya, D. T., N. Nakashole, and T. M. Mitchell (2014). CTPs: Contextual Temporal Profiles for Time Scoping Facts using State Change Detection. In: *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
 20. Nakashole, N., T. Tylenda, and G. Weikum (2013). Fine-grained Semantic Typing of Emerging Entities. In: *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (ACL)*, pp.1488–1497.
 21. Nakashole, N., G. Weikum, and F. Suchanek (2013). Discovering Semantic Relations from the Web and Organizing them with PATTY. *ACM SIGMOD Record* **42**(2), 29–34.
 22. Nakashole, N., G. Weikum, and F. Suchanek (2012a). Discovering and exploring relations on the web. *Proceedings of the VLDB Endowment* **5**(12), 1982–1985.

23. Nakashole, N., G. Weikum, and F. Suchanek (2012b). PATTY: a taxonomy of relational patterns with semantic types. In: *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning (EMNLP)*. **Best Paper Award Runner Up**, pp.1135–1145.
24. Weikum, G., J. Hoffart, N. Nakashole, M. Spaniol, F. M. Suchanek, and M. A. Yosef (2012). Big Data Methods for Computational Linguistics. *IEEE Data Eng. Bull.* **35**(3), 46–64.
25. Nakashole, N., M. Theobald, and G. Weikum (2011). Scalable Knowledge Harvesting with High Precision and High Recall. In: *Proceedings of the Fourth ACM International Conference on Web Search and Data Mining (WSDM)*, pp.227–236.
26. Nakashole, N. and H. Suleman (2009). A Hybrid Distributed Architecture for Indexing. In: *Research and Advanced Technology for Digital Libraries, 13th European Conference (ECDL)*, pp.250–260.
27. Nakashole, N. and H. Suleman (2008). A Scavenger Grid for Intranet Indexing. In: *Digital Libraries: Universal and Ubiquitous Access to Information, 11th International Conference on Asian Digital Libraries (ICADL)*, pp.398–399.
28. Nakashole, N., H. Suleman, and C. Pedzai (2007). Dynamic role allocation for small search engine clusters. In: *Proceedings of the 2007 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing countries (SAIC-SIT)*, pp.91–96.

Tutorials

1. Nakashole, N. (2022). Advances in NLP and their Applications to Healthcare. In: *Advances in Neural Information Processing Systems 35: Annual Conference on Neural Information Processing Systems, NeurIPS 2022 (Tutorials)*.

Peer Reviewed Workshop Publications

1. Kim, B. and N. Nakashole (2022). Data Augmentation for Rare Symptoms in Vaccine Side-Effect Detection. In: *Proceedings of the 21st Workshop on Biomedical Language Processing*, pp.310–315.
2. Mrini, K., F. Deroncourt, W. Chang, E. Farcas, and N. Nakashole (2021). Joint Summarization-Entailment Optimization for Consumer Health Question Understanding. In: *Proceedings of the Second Workshop on Natural Language Processing for Medical Conversations*. **Best Student Paper Award**.
3. Mrini, K., F. Deroncourt, S. Yoon, T. Bui, W. Chang, E. Farcas, and N. Nakashole (2021b). UCSD-Adobe at MEDIQA 2021: Transfer Learning and Answer Sentence Selection for Medical Summarization. In: *Proceedings of the 20th Workshop on Biomedical Language Processing, BioNLP@NAACL-HLT, 2021*. Association for Computational Linguistics, pp.257–262.
4. Yan, X. and N. Nakashole (2021). A Grounded Well-being Conversational Agent with Multiple Interaction Modes: Preliminary Results. In: *NLP for Positive Impact Workshop (NLP4PI) at ACL 2021*.
5. Johnson, J., K. Mrini, M. Hogarth, A. Moore, N. Nakashole, N. Weibel, and E. Farcas (2020). Voice-Based Conversational Agents for Older Adults. In: *Proceedings of the Conversational Agents for Health and Wellbeing Workshop at CHI 2020*.
6. Nakashole, N. (2019). Commonsense about Human Senses: Labeled Data Collection Processes. In: *Proceedings of the CWorkshop on COmmonsense INFerence in NLP (COIN) at EMNLP 2019*.
7. Nakashole, N. and T. Mitchell (2014). Micro Reading with Priors: Towards Second Generation Machine Readers. In: *Proceedings of the Workshop on Automatic Knowledge Base Construction (AKBC at NIPS)*.
8. Wijaya, D., N. Nakashole, and T. Mitchell (2014). Mining and Organizing a Resource of State-changing Verbs. In: *Proceedings of the Workshop on Automatic Knowledge Base Construction (AKBC at NIPS)*.

9. Nakashole, N., M. Sozio, F. M. Suchanek, and M. Theobald (2012). Query-Time Reasoning in Uncertain RDF Knowledge Bases with Soft and Hard Rules. In: *Proceedings of the Second International Workshop on Searching and Integrating New Web Data Sources (VLDS at VLDB)*, pp.15–20.
10. Nakashole, N. and G. Weikum (2012). Real-time population of knowledge bases: opportunities and challenges. In: *Proceedings of the Joint Workshop on Automatic Knowledge Base Construction and Web-scale Knowledge Extraction (AKBC-WEKEX) at NAACL*. **Best Paper Award**.
11. Nakashole, N., M. Theobald, and G. Weikum (2010). Find your advisor: robust knowledge gathering from the web. In: *Proceedings of the 13th International Workshop on the Web and Databases (WebDB at SIGMOD)*.

Theses

1. Nakashole, N. (2012). “Automatic Extraction of Facts, Relations, and Entities for Web-scale Knowledge Base Population”. PhD thesis. Saarland University.
2. Nakashole, N. (2009). “A Hybrid Scavenger Grid Approach to Intranet Search”. MA thesis. University of Cape Town.
3. Nakashole, N. (2006). *A Dynamic Query Index Role Cluster Based Search Engine*. BS Thesis.

INVITED TALKS

- 10/2022 2nd Pan African Artificial Intelligence Conference
- 08/2022 NLP Workshop at Deep Learning Indaba
- 10/2021 1st Pan African Artificial Intelligence Conference
- 8/2021 Workshop on NLP for Positive Impact at ACL 2021
- 7/2021 CaliBaja Center for Resilient Materials & Systems
- 3/2021 Megagon Labs
- 1/2021 University of Washington NLP Seminar
- 11/2020 Two Sigma Inc
- 6/2020 Conference on Automatic Knowledge Base Construction (AKBC) 2020
- 12/2019 Workshop on Document Intelligence at NeurIPS 2019
- 9/2019 Southern California NLP Symposium
- 11/2018 Carnegie Mellon University
- 11/2018 University of Maryland
- 10/2018 University of Southern California
- 5/2018 Intuit Inc
- 6/2018 Workshop on New Forms of Generalization at NAACL 2018
- 11/2017 Harvey Mudd College
- 7/2017 Women in NLP Workshop at ACL 2017
- 6/2017 U.S. National Academy of Sciences Kavli Frontiers of Science
(Korean-American Symposium)
- 5/2017 University of California, Irvine
- 4/2016 University of Texas, Austin
- 4/2016 Rutgers University
- 4/2016 IBM Research
- 3/2016 Johns Hopkins University
- 3/2016 Microsoft Research
- 3/2016 New York University
- 3/2016 University of California, Davis
- 2/2016 University of California, San Diego
- 2/2016 Rice University
- 1/2016 University of Michigan, Ann Arbor
- 1/2016 Yale University
- 11/2015 NLP Lunch, Carnegie Mellon University
- 12/2013 Machine Learning Lunch, Carnegie Mellon University
- 9/2013 Google Research Mountain View
- 3/2013 Computational Linguistics Lunch Seminar, Saarland University, Germany
- 6/2008 ETH Zurich, Switzerland
- 6/2008 IBM Zurich, Switzerland

REFERENCES

Available upon request