

# Neha Verma

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## EDUCATION

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<b>Johns Hopkins University</b> Ph.D. in Computer Science – <i>Advisors: Kevin Duh &amp; Kenton Murray</i>	Baltimore, MD 2021 - current
<b>Johns Hopkins University</b> M.S.E. in Computer Science – <i>Advisors: Kevin Duh &amp; Kenton Murray</i>	Baltimore, MD 2021 - 2023
<b>Yale University</b> B.S. in Computer Science & Mathematics – Distinction in the Major – Magna Cum Laude	New Haven, CT 2017 - 2021

## EXPERIENCE

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<b>Meta - Fundamental AI Research</b> Ph.D. Research Intern – <i>Advisor: Maha Elbayad</i>	Menlo Park, CA Summer 2023
<b>Language and Information Learning Lab (LILY) at Yale</b> Research Assistant – <i>Advisor: Dragomir Radev</i>	New Haven, CT 2018-2021
<b>CVS Health/Aetna</b> Data Science Intern	Remote Summer 2020
<b>Summer Undergrad Math Research at Yale (SUMRY)</b> Research Assistant – <i>Advisor: Karamatou Yacoubou Djima</i>	New Haven, CT Summer 2019

## PAPERS

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- [1] **N. Verma**, M. Elbayad. “Merging text transformer models from different initializations”, *Workshop on High-dimensional Learning Dynamics at ICML (HiLD@ICML)*, 2024.
- [2] **N. Verma**, K. Murray, K. Duh. “Exploring geometric representational disparities between multilingual and bilingual translation models”, *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, 2024.
- [3] E. Salesky, **N. Verma**, P. Koehn, M. Post. “Multilingual Pixel Representations for Translation and Effective Cross-lingual Transfer”, *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2023.
- [4] H.L. Xinyuan\*, **N. Verma\***, B. Odoom, U. Pradeep, M. Wiesner, S. Khudanpur. “JHU IWSLT 2023 Multilingual Speech Translation System Description”, *Proceedings of the 20th International Conference on Spoken Language Translation (IWSLT)*, 2023.
- [5] A. Hussein, C. Xiao, **N. Verma**, T. Thebaud, M. Wiesner, S. Khudanpur. “JHU IWSLT 2023 Dialect Speech Translation System Description”, *Proceedings of the 20th International Conference on Spoken Language Translation (IWSLT)*, 2023.

- [6] K. Marchisio, **N. Verma**, K. Duh, P. Koehn. “*IsoVec*: Controlling the Relative Isomorphism of Word Embedding Spaces”, *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2022.
- [7] **N. Verma**, K. Murray, K. Duh. “Strategies for Adapting Multilingual Pre-training for Domain-Specific Machine Translation”, *Proceedings of the 15th biennial conference of the Association for Machine Translation in the Americas (AMTA)*, 2022.
- [8] I. Li, J. Pan, J. Goldwasser, **N. Verma**, W. P. Wong, M. Nuzumlalı, B. Rosand, Y. Li, M. Zhang, D. Chang, R. A. Taylor, H. M. Krumholz, D. Radev. “Neural Natural Language Processing for Unstructured Data in Electronic Health Records: a Review”, *Computer Science Review*, 2022.
- [9] L. Nan, C. Hsieh, Z. Mao, X. Lin, **N. Verma**, R. Zhang, W. Kryściński, N. Schoelkopf, R. Kong, X. Tang, M. Mutuma, B. Rosand, I. Trindade, R. Bandaru, J. Cunningham, C. Xiong, D. Radev. “FeTaQA: Free-form Table Question Answering”, *Transactions of the Association for Computational Linguistics (TACL)*, 2021.
- [10] L. Nan, D. Radev, R. Zhang, A. Rau, A. Sivaprasad, C. Hsieh, X. Tang, A. Vyas, **N. Verma**, P. Krishna, Y. Liu. “DART: Open-domain structured data record to text generation”, *Proceedings of the NAACL-HLT*, 2021, pp. 432-447.
- [11] R. Zhang, C. Westerfield, S. Shim, G. Bingham, A. Fabbri, W. Hu, **N. Verma**, and D. Radev. “Improving Low-Resource Cross-lingual document Retrieval by Reranking with Deep Bilingual Representations”, *Proceedings of the Association for Computational Linguistics (ACL)*, 2019, pp. 3173-3179.

## SKILLS

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- **Programming Languages:** Python (expert), Bash, SQL
- **Frameworks/Toolkits:** PyTorch, fairseq, HuggingFace Transformers, numpy, Dask, L<sup>A</sup>T<sub>E</sub>X, Git

## TEACHING

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- **Undergraduate Learning Assistant**, Yale University
  - Language and Computation (LING 227) Spring 2021
  - Abstract Algebra (MATH 350) Fall 2019 & 2020
  - Linear Algebra & Vector Calculus II (MATH 231) Spring 2019
- **Peer Tutor**, Yale University
  - Fields & Galois Theory (MATH 370) Spring 2020 & 2021
  - Calculus of Functions of Several Variables (MATH 120) Fall 2018

## FELLOWSHIPS AND AWARDS

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- Phi Beta Kappa 2021
- Yale College First-Year Summer Research Fellowship in the Sciences & Engineering 2018

## GRADUATE COURSES

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- Machine Translation, Advanced Natural Language Processing, Machine Learning, Machine Learning for Trustworthy AI, Self-Supervised Statistical Models, Parallel Computing for Data Science, Vision as Bayesian Inference, Information Extraction from Speech

## SERVICE

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- **Reviewing**
  - ACL Rolling Review (2023, 2024)
  - Computational Linguistics Journal (2022)
  - AMTA 2022
- **Organizing**
  - Machine Translation Marathon of the Americas (MTMA) Organizer 2024
  - JHU CLSP Application Support Program Organizer 2022-present
  - Yale Association for Women in Mathematics (AWM) Chapter President 2020-2021
  - Regional NACLO Organizer @ Yale University 2020-2021