Alexander Martin

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EDUCATION

Johns Hopkins University   **Baltimore, Maryland**
Ph.D. in Computer Science   Expected May 2029
Advisor: Dr. Benjamin Van Durme

University of Rochester   **Rochester, New York**
B.S. in Computer Science; Highest Honors in Research   May 2024
Advisor: Dr. Aaron Steven White, Dr. Jiebo Luo
Thesis: Human-Centric Event Representations in Documents and Videos

RESEARCH

Human Language Technology Center of Excellence   2024 – Present
Ph.D. Researcher; Advised by Dr. Benjamin Van Durme
  Researched topics related to multimodal automatic article generation from documents, images, videos.

Human Language Technology Center of Excellence   Summer 2024
Researcher Intern; Advised by Dr. Benjamin Van Durme
  Researched extracting information about events from videos and aligned text and video retrieval.

Formal And Computational Semantics Lab   2022 – 2024
Undergraduate Researcher; Advised by Dr. Aaron Steven White
  Researched extracting and summarizing information about events from large unstructured text.

Visual Intelligence & Social Multimedia Analytics Lab   2022 – 2024
Undergraduate Researcher; Advised by Dr. Jiebo Luo
  Researched methods for understanding and extracting information from videos and methods for
  generating images to inform research in evolutionary biology.

Environmental Protection Agency   Summer 2022 – Fall 2022
Research Intern; Advised by Dr. Andrea Kirk
  Developed methods for relative importance analysis to measure the effects of PFAS exposure on
  humans and their health, including cancer risk and bone mineral density.

Rochester Human Computer Interaction Lab   2022 – 2024
Research Assistant; Advised by Dr. Ehsan Hoque
  Created synthetic datasets to improve performance of hand pose estimation models for diagnosing
  Parkinson's Disease in virtual health appointments.

HONORS, AWARDS, & GRANTS

National Science Foundation, **Graduate Research Fellowship**   2024 – 2029
Computing Research Association, **Outstanding Undergraduate Research Award** (**HM**)   2024
University of Rochester
  Charles L. Newton Prize   2024
  Senior Research Award   2024
  Research Presentation Grant (x2)   2023, 2024
  Dean's Award in Engineering and Mathematics (x2)   2023, 2024
  River Campus Libraries Dataset Grant   2023
  Residential Life Best Program of the Year   2023
  Make It Happen Grant   2022

PUBLICATIONS

[1]   A. Reddy*, **A. Martin***, E. Yang, A. Yates, K. Sanders, K. Murray, R. Kriz, C.M. de Melo, B.
      Van Durme, R. Chellapa "*Video-ColBERT: Contextualized Late Interaction for Text-to-Video
      Retrieval*" (CVPR 2025)

[2]   R. Kriz*, K. Sanders*, D. Etter*, K. Murray, C. Carpenter, K. Van Ochten, H. Recknor, J. Guallar-Blasco, **A. Martin**, R. Colaianni, N. King, E. Yang, B. Van Durme "*MultiVENT 2.0: A Massive Multilingual Benchmark for Event-Centric Video Retrieval*" (<u>CVPR</u> 2025)

[3]   W. Walden, P. Kuchmiichuk, **A. Martin**, C. Jin, A. Cao, C. Sun, C. Allen, A.S. White "*Cross-Document Event-Keyed Summarization*" (<u>ArXiv</u> 2024)

[4]   K. Sanders*, R. Kriz*, D. Etter*, H. Recknor, **A. Martin**, C. Carpenter, J. Lin, B. Van Durme "*Grounding Partially-Described Events in Multimodal Data*" (<u>EMNLP</u> 2024)

[5]   W. Gantt, **A. Martin**, P. Kuchmiichuk, A.S. White "*Event-Keyed Summarization*" (<u>EMNLP</u> 2024)

[6]   S. Vashishtha, **A. Martin**, W. Gantt, B. Van Durme, A.S. White "*FAMuS: Frames Across Multiple Sources*" (<u>NAACL</u> 2024, <u>Poster</u>)

[7]   M. Hasan, C. Ozel, N. Long, **A. Martin**, S. Potter, T. Adnan, S. Lee, A. Zadeh, E. Hoque "*Hi5: 2D Hand Pose Estimation with Zero Human Annotation*" (<u>ArXiv</u> 2024)

[8]   **A. Martin**, H. Zheng, J. An, J. Luo "*Jurassic World Remake: Bringing Ancient Fossils Back to Life via Zero-Shot Long Image-to-Image Translation*" (<u>MM</u> 2024, <u>Oral Presentation</u>)

[9]   S. Barham, O. Weller, M. Yuan, K. Murray, M. Yarmohammadi, Z. Jiang, S. Vashishtha, **A. Martin**, A. Liu, A.S. White, J. Boyd-Graber, B. Van Durme "*MegaWika: Millions of reports and their sources across 50 diverse languages*" (<u>ArXiv</u> 2023)

[10] A.B. Kirk, A. DeStefano, **A. Martin**, K.C. Kirk, C.F. Martin "*A New Interpretation of Relative Importance Analysis of Per and Polyfluorinated Alkyl Substances (PFAS) Exposure on Bone Mineral Density*" (<u>IJERPH</u> 2023)

TALKS

FAMuS: Frames Across Multiple Sources (*<u>Video</u>, Poster*)	*June 2024*
Main Conference; NAACL 2024	*Poster*
3rd Workshop on Processing and Evaluating Event Representations; PEER 2024 (<u>Slides</u>)	*Talk*
Jurassic World Remake	Oct. 2023
Main Conference; ACM Multimedia 2024 (<u>Slides</u>)	*Talk*

TEACHING EXPERIENCE

University of Rochester

Introduction to Artificial Intelligence (CSC 242)	Spring 2023
Data Structures and Algorithms (CSC 172)	Spring 2022, Fall 2022
Introduction to Computer Science (CSC 171)	Fall 2021

PROFESSIONAL SERVICE

MAGMaR: Workshop on Multimodal Augmented Generation via Multimodal Retrieval
Program Committee; *ACL 2025*
Reviewing: CVPR 2025, NAACL 2025, NeurIPS 2024

VOLUNTEERING

North American Computational Linguistics Open Competition (NACLO)	**Baltimore, Maryland**
Competition Organizer	Aug. 2024 – Present
University of Rochester: Residential Life	**Rochester, New York**
Resident Advisor	Aug. 2021 – May 2024
STEM Initiative	**Rochester, New York**
Education Mentor	Jan. 2021 – Dec. 2023

SKILLS

Programming Languages: Python, Java, C++, Bash, **Familiar:** C, MATLAB, JavaScript, R
Tools: PyTorch, Amazon Mechanical Turk, Docker, AWS