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

HONORS, AWARDS, & GRANTS

<u>National Science Foundation</u>, **Graduate Research Fellowship**	2024 – 2029
<u>Computing Research Association</u>, **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

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 image generation, image-to-image translation, and video understanding.

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.

PUBLICATIONS

Representative Work: Video Retrieval, Multimodal Generation, Grounded Generation, RAG

[1] **A. Martin**, R. Kriz, W. Walden, K. Sanders, H. Recknor, E. Yang, F. Ferraro, B. Van Durme
    "*WikiVideo: Article Generation from Multiple Videos*" (<u>ArXiv</u> 2025)

[2] 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*" (<u>CVPR</u> 2025)

[3] 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)

All Others:

[4] S. Samuel, D. DeGenaro, J. Guallar-Blasco, K. Sanders, O. Eisape, A. Reddy, **A. Martin**, A. Yates, E. Yang. C. Carpenter, D. Etter, E. Kayi, M. Wiesner, K. Murray, R. Kriz "*MMMORRF: Multimodal Multilingual Modularized Reciprocal Rank Fusion*" (<u>SIGIR</u> 2025)

[5] D. DeGenaro, E. Yang, N. King, D. Etter, C. Carpenter, K. Sanders, **A. Martin**, K. Murray, R. Kriz "*FORTIFY: Generative Model Fine-tunning with ORPO for ReTrieval Expansion of InFormal Noisy Text*" (ACL Workshop 2025)

[6] W. Walden, P. Kuchmiichuk, **A. Martin**, C. Jin, A. Cao, C. Sun, C. Allen, A.S. White "*Cross-Document Event-Keyed Summarization*" (<u>ACL</u> Workshop 2025)

[7] 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)

[8] W. Gantt, **A. Martin**, P. Kuchmiichuk, A.S. White "*Event-Keyed Summarization*" (<u>EMNLP</u> 24)

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

[10] 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)

[11] **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)

[12] 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)

[13] 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

Cross-Document Event-Keyed Summarization [<u>slides</u>]	**April 2025**
XLLM; ACL 2025	*Oral*
On Demand Article Generation of Events in Real Time [<u>slides</u>]	**April 2025**
University of Rochester, Department of Computer Science	*Seminar*
MARE: Automatic Modality-Agnostic Report Evaluation [<u>slides</u>]	**April 2025**
Eval4Rag; ECIR 2025	*Oral*
Understanding Events in Multimodal Data Through Question Answering [<u>slides</u>]	**April 2025**
4th Workshop on Processing and Evaluating Event Representations; PEER 2025	*Talk*
FAMuS: Frames Across Multiple Sources [<u>slides</u>]	**April 2024**
3rd Workshop on Processing and Evaluating Event Representations; PEER 2024	*Talk*
Jurassic World Remake [<u>slides</u>]	***October 2023***
Main Conference; ACM Multimedia 2024	*Oral*

PROFESSIONAL & COMMUNITY SERVICE

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

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

Mentorship

Charles Weng 2025 –
Johns Hopkins University B.S/M.S.

Hanxiang Qin 2025 –
Johns Hopkins University M.S.

Dengjia Zhang 2024 –
Johns Hopkins University M.S.