Alexander Martin

amart233@jhu.edu • GitHub • Scholar • Website

EDUCATION

Johns Hopkins University — **Baltimore, Maryland**
Ph.D. in Computer Science — Expected 2028
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

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

RESEARCH

Human Language Technology Center of Excellence — 2024 – Present
Ph.D. Researcher; Advised by Dr. Benjamin Van Durme
Researched topics in multimodal content generation and reasoning using documents and 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: Multimodal RAG, Video Understanding, Video Retrieval

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

All Others:

[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" (CVPR 2025)

[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*" (SIGIR 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*" (ACL 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*" (EMNLP 2024)

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

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

[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*" (ArXiv 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*" (MM 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*" (ArXiv 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*" (IJERPH 2023)

TALKS

On Demand Article Generation of Events in Real Time [slides] — **April 2025**
University of Rochester, Department of Computer Science — *Seminar*

MARE: Automatic Modality-Agnostic Report Evaluation [slides] — **April 2025**
Eval4Rag; ECIR 2025 — *Oral*

Understanding Events in Multimodal Data Through Question Answering [slides] — **April 2025**
4th Workshop on Processing and Evaluating Event Representations; PEER 2025 — *Talk*

FAMuS: Frames Across Multiple Sources [slides] — **April 2024**
3rd Workshop on Processing and Evaluating Event Representations; PEER 2024 — *Talk*

Jurassic World Remake [slides] — ***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

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

Katherine Guerrerio 2025 –
Johns Hopkins University B.S

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.