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 May 2024

B.S. in Computer Science; Highest Honors in Research Advisor: Dr. Aaron Steven White, Dr. Jiebo Luo

Thesis: Human-Centric Event Representations at the Document Level and Beyond

RESEARCH

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
University of Rochester, Charles L. Newton Prize	2024
University of Rochester, Senior Research Award	2024
University of Rochester, Research Presentation Grant	2024
University of Rochester, Dean's Award in Engineering and Mathematics	2024
CRA, Outstanding Undergraduate Research Award Honorable Mention	2024
University of Rochester, Research Presentation Grant	2023
University of Rochester, Dean's Award in Engineering and Mathematics	2023
University of Rochester, River Campus Libraries Data Set Grant	2023
University of Rochester, Residential Life Best Program of the Year	2023
University of Rochester, Make It Happen Grant	2022

PUBLICATIONS

- [1] 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 Findings, 2024)
- [2] W. Gantt, A. Martin, P. Kuchmiichuk, A.S. White "Event-Keyed Summarization" (EMNLP Findings, 2024)
- [3] S. Vashishtha, A. Martin, W. Gantt, B. Van Durme, A.S. White "FAMuS: Frames Across Multiple Sources" (NAACL, 2024, Poster)

- [4] **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, Oral Presentation)
- [5] 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)
- [6] A. Kirk, A. DeStafano, **A. Martin**, K. Kirk, C. Martin "A New Interpretation of Relative Importance on An Analysis of Per and Polyfluorinated Alkyl Substances (PFAS) Exposures 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
FAMuS: Frames Across Multiple Sources (Slides)	Mar. 2024
3 rd Workshop on Processing and Evaluating Event Representations; PEER 2024	Talk
Jurassic World Remake (Slides)	Oct. 2023
Main Conference; ACM Multimedia 2024	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
Math and Computer Science Tutor	Fall 2021 – Fall 2023

PROFESSIONAL SERVICE

Reviewing

NeurIPS 2024

University of Rochester: Residential Life

Rochester, New York Aug. 2021 – May 2024

Resident Advisor Aug. 2021 – Advised students living in residence halls on academics, mental health, and social conflicts.

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STEM InitiativeRochester, New York
Education Mentor
Jan. 2021 – Dec. 2023

Taught programming fundamentals for projects with Raspberry Pi and Lego Robotics.

SKILLS

Programming Languages: Python, Java, C++, Bash, **Familiar:** C, MATLAB, JavaScript, R

Tools: PyTorch, Hugging Face, Amazon Mechanical Turk, Docker, AWS

Soft Skills: Small group instruction, conflict resolution