

# Alexander Martin

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## EDUCATION

### Johns Hopkins University

*Ph.D. in Computer Science*

*Advisor: Dr. Benjamin Van Durme*

**Baltimore, Maryland**

Expected May 2028

### University of Rochester

*B.S. in Computer Science; Highest Honors in Research*

**Rochester, New York**

May 2024

## RESEARCH

### Human Language Technology Center of Excellence

*Research Intern; Advised by Dr. Benjamin Van Durme*

**Johns Hopkins University**

*May 2024 – August 2024*

- Researched extracting information about events from videos and aligned text.

### Formal And Computational Semantics (FACTS) Lab

*Undergraduate Researcher; Advised by Dr. Aaron Steven White*

**University of Rochester**

*May 2022 – Present*

- Created a variety of corpora for machine learning models for document, multi-document, and cross-document level tasks on event argument extraction and summarization of events.
- Built transformer-based models and finetuned Large Language Models (LLMs) for those tasks.
- Formulated new evaluation metrics for cross-document argument extraction.

### Visual Intelligence & Social Multimedia Analytics (VISTa) Lab

*Undergraduate Researcher; Advised by Dr. Jiebo Luo*

**University of Rochester**

*August 2022 – Present*

- Created a dataset for long image-to-image translation, for translating fossils into living animals.
- Designed methodologies for working with Multimodal Large Language Models (LMMs), Large Video Understanding Models, Stable Diffusion, and Generative Adversarial Networks.
- Developed contrastive pretraining objectives and unsupervised generative models for media.

## PUBLICATIONS & TALKS

W. Gantt, **A. Martin**, P. Kuchmiichuk, A.S. White “Event-Keyed Summarization” ([ArXiv](#), 2024)

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

**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](#))

S. Barham, et al. (incl **A. Martin**) “MegaWika: Millions of reports and their sources across 50 diverse languages” ([ArXiv](#), 2023)

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” ([IJERPH](#) 2023)

**Talk:** PEER Workshop 2024: *FAMuS: Frames Across Multiple Sources* (March 2024)

**Talk:** ACM Multimedia 2023: *Jurassic World Remake* (October 2023)

## HONORS, AWARDS, & GRANTS

National Science Foundation, **Graduate Research Fellowship (\$37,000/yr)** 2024 – 2027

University of Rochester, **Charles L. Newton Prize (\$2,010)** 2024

University of Rochester, **President’s Award in Engineering and Mathematics** 2024

CRA, **Outstanding Undergraduate Research Award Honorable Mention** 2024

University of Rochester, **Research Presentation Grant (\$1,300)** 2023

University of Rochester, **Deans’ Award in Engineering and Mathematics** 2023

University of Rochester, **River Campus Libraries Data Set Grant (\$850)** 2023

## SKILLS

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

**Tools/Frameworks:** PyTorch, Amazon Mechanical Turk, Docker, AWS, LaTeX, Git, Overleaf