

# Daniel Israel

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Website: [danielmisrael.github.io](https://danielmisrael.github.io) Cell: (408)-966-7131 Email: [disrael@ucla.edu](mailto:disrael@ucla.edu)

## EDUCATION

### UCLA, Los Angeles, CA

PhD in Computer Science, September 2022 - Present

- Advisors: Aditya Grover, Guy Van den Broeck
- Computer Science Department Scholar Award
- Completed coursework to obtain Master of Science

### CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA

B.S. in Computer Science, Minor in Information and Data Science

- Advisors: Anima Anandkumar, Pietro Perona, Frederick Eberhardt
- GPA: 4.0

## RESEARCH EXPERIENCE

### UCLA

Graduate Research Student, September 2022 – Now

- Efficient LLM systems
  - Adaptive Parallel Decoding [1]: Accelerating diffusion LLM parallel generation
    - NeurIPS 2025 Spotlight (3.1% Acceptance Rate)
  - Prepacking [2]: Efficient and exact speedup for LLM prefilling
  - MARIA [3]: Autoregressive text infilling made fast and scalable
- AI For Science
  - MedMax [4]: Multimodal training of LLM-based biomedical assistants
  - VBA [5]: A variational approach to high dimensional causal queries

### ARGONNE NATIONAL LABORATORY

Research Assistant, June 2025 - Now

- Working with Sandeep Madireddy and chemistry team to use AI for catalysis
- Training a multimodal foundation model with autoregressive and diffusion objective

### ANIMA LAB

Research Assistant, October 2021 – June 2022

- Project with Professor Anima Anandkumar implementing model based reinforcement learning to control Cassie bipedal walking

### PERONA LAB

Research Assistant, March 2021 – June 2021

- Worked under Professor Pietro Perona to model the development of number sense in the human brain using computer vision models

## OTHER EXPERIENCE

### UCLA CS DEPARTMENT / CALTECH CMS DEPARTMENT

Teaching Assistant

- TA for CS81: Introduction to Computer Science by Professor Stahl
- TA for CS161: Fundamentals of Artificial Intelligence by Professor Guy Van den Broeck
- TA for CS M146: Introduction to Machine Learning by Professor Aditya Grover
- TA for ACM 116: Introduction to Probability Theory taught by Professor Kostia Zuev
- TA for CS 155: Machine Learning and Data Mining taught by Professor Yisong Yue
- Hosted weekly office hours and helped grade problem sets

### SPLUNK, INC.

Intern, June 2020 – August 2020

- Worked with Splunk Security Analytics team and updated architecture to support asynchronous processing using Apache Pulsar
- After conducting performance tests, established 4x improvement in throughput

## SKILLS

- Ability to devise and implement novel methods to improve training and inference
- Experience with modern ML frameworks: PyTorch, Tensorflow, Huggingface, Wandb
- Strong understanding of probabilistic inference algorithms in graphical models
- Analytical skills and ability to visualize and present research
- Strong mathematical background in probability theory, linear algebra, and discrete math
- Thorough understanding of modern deep generative model landscape

## SELECTED WORKS

- [1] Israel, Daniel, Guy Van den Broeck, and Aditya Grover. "Accelerating Diffusion LLMs via Adaptive Parallel Decoding." Advances in Neural Information Processing Systems 39 (2025).
- [2] Siyan Zhao, Daniel Israel, Guy Van den Broeck and Aditya Grover. Prepacking: A Simple Method for Fast Prefilling and Increased Throughput in Large Language Models, In Proceedings of the 28th International Conference on Artificial Intelligence and Statistics (AISTATS), 2025
- [3] Israel, Daniel, Aditya Grover, and Guy Van den Broeck. "Enabling Autoregressive Models to Fill In Masked Tokens." arXiv preprint arXiv:2502.06901 (2025).
- [4] Bansal, H., Israel, D., Zhao, S., Li, S., Nguyen, T., and Grover, A. "MedMax: Mixed-Modal Instruction Tuning for Training Biomedical Assistants". Advances in Neural Information Processing Systems 39 (2025).
- [5] Israel, D., Grover, A., & Broeck, G. V. D. (2023). High Dimensional Causal Inference with Variational Backdoor Adjustment. arXiv preprint arXiv:2310.06100.