Daniel Israel

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Education

UCLA, Los Angeles, CA
PhD in Computer Science, September 2022 - Present

- Advisors: Aditya Grover, Guy Van den Broeck
- Computer Science Department Scholar Award
- PhD Candidate, Master of Science Degree Completed

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA
B.S. in Computer Science, Minor in Information and Data Science

- GPA: 4.0

Research Experience

UCLA
Graduate Research Student, September 2022 – Now

- Research in Efficient LLM inference algorithms
- **Adaptive Parallel Decoding** [1]: Accelerating diffusion LLM parallel generation
  - NeurIPS 2025 Spotlight (3.1% Acceptance Rate)
  - First author and sole code contributor
- **Planned Diffusion** [2]: Semantic parallelism in a hybrid AR/diffusion LLM
  - ICLR 2026
- **Prepacking** [3]: Efficient and exact speedup for LLM prefilling
  - AISTATS 2025

GOOGLE STUDENT RESEARCHER
Research Assistant, October 2025 - Now

- Research in diffusion large language models

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

CALTECH
Research Assistant, March 2021 – June 2022

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

- 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 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

SPLUNK, INC.
Intern, June 2020 – August 2020

- Worked with Splunk Security Analytics team to support asynchronous processing using Apache Pulsar, achieving 4x improvement in throughput

Skills

- Ability to devise and implement novel algorithms to accelerate LLM 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] Israel, Daniel, Tian Jin, Ellie Cheng, Guy Van den Broeck, Aditya Grover, Suvinay Subramanian, Michael Carbin. "Planned Diffusion." In Proceedings of the 14th International Conference on Learning Representations (ICLR), 2026.

[3] 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

[4] Chen, Alex, Renato Geh, Aditya Grover, Guy Van den Broeck, and Daniel Israel. "The Pitfalls of KV Cache Compression." In Proceedings of the 64th Annual Meeting of the Association for Computational Linguistics (ACL), 2026.

[5] Israel, Daniel, Aditya Grover, and Guy Van den Broeck. "Enabling Autoregressive Models to Fill In Masked Tokens." In Findings of the 19th Conference of the European Chapter of the Association for Computational Linguistics (EACL), 2026.