# LOUIS CASTRICATO

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# Education

University of Waterloo | Honors Bachelor of Mathematics, Pure Math minor (2015-2020) Georgia Tech | 4.0 GPA Masters of Computer Science (DNF) Brown University | Computer Science PhD (2022 - )

# **Publications**

### ICONIPS17, October 2017.

Combating Adversarial Inputs Using a Predictive-Estimator Network

### Arxiv, October 2020.

Parameter-Efficient Neural Question Answering Models via Graph-Enriched Document Representations.

#### WNU21, March 2021.

Towards a Model-Theoretic View of Narratives.

#### WNU21, March 2021.

Fabula Entropy Indexing: Objective Measures of Story Coherence.

#### WNU21, March 2021.

Automated Story Generation as Question-Answering.

#### Arxiv, October 2021,

Cut the CARP: Fishing for zero-shot story evaluation.

## ECCV, 2022.

Vqgan-clip: Open domain image generation and editing with natural language guidance.

#### Arxiv, 2022.

Linearly Mapping from image to Text Space.

## Neurips Workshop, 2022.

EleutherAI: Going Beyond "Open Science" to "Science in the Open

#### IJCAI Under Review, 2023.

Robust Preference Learning for Storytelling via Contrastive Reinforcement Learning.

# Experience

## Lead Researcher | WireZapp (2012 - 2016)

Looked to link symbolic reasoning with fuzzy concept maps and deep learning. Conducted multiagent reasoning research over a number of years.

## Lecturer, SME | UAS Technikum Vienna (2016)

Taught an online graduate course on LSTMs and RNNs applied to sequence generation. Approved SME for Ivan Lazarov's master's thesis.

## Research Assistant | Waterloo (2016 – 2017)

Worked under Professor Jeff Orchard on biologically, within the realm of leaky-integrate-andfire neurons, feasible generative methods. Won a best paper award.

## Research Assistant | MIT, CSAIL (April 2019 – October 2019)

Collaborated with Dr. Enrico Santus on graphical QA and summarization methods.

## Graduate Research Assistant | Georgia Tech (August 2020 – April 2021)

Working under Professor Mark Riedl on narrative comprehension and generation methods. Particularly- story generation via causal question answering, story generation via causal retrieval, story evaluation via causal inquiry.

## Researcher Director | EleutherAl (September 2020 – 2022)

Working with Stella Biderman on evaluation theory papers, as well as being one of the developers on EleutherAI's multimodal language models. Was one of the earliest members at EleutherAI. Storytelling subject matter expert. Led all EleutherAI efforts into preference modeling.

## Chief of Research | NovelAI (May 2021 – July 2021)

Joined NovelAI to act as standing computational storytelling expert, lead initiatives to improve and standardize data quality. Directed research projects into knowledge graphs and human-in-the-loop writing systems.

## Machine Learning Engineer Intern | CohereAI (July 2021 – December 2021)

Working on large scale language modeling, with a focus on contrastive learning models.

## Research Scientist Intern | Hugging Face (May 2022 – August 2022)

Studied the conditions that retrieval augmented generation models collapse. Interpretability work.

## Research Director | Stability AI (May 2022 - )

Lead of all RLHF research at Stability AI. Working on exaflop language modeling. Manage a team of 13 fulltime research engineers and 40+ volunteers.

## Cofounder | CarperAl (May 2022 - )

Leading OpenInstruct and a number of smaller deception + RLHF projects.

# Awards and Acknowledgements

#### JP30, 2013

Teen authorship award. Came first place on Jukepop's post-NaNoWriMo competition.

#### Best Paper ICONIPS, 2017

Won best paper at ICONIPS 2017 with Professor Jeff Orchard

#### Stability AI PhD Fellowship, 2022

One of the first recipients of the Stability AI PhD fellowship, to work on supercomputer scale language modeling with Professor Ellie Pavlick.

# **Program Committees**

#### ICIDS2020

Was on the demo review committee for ICIDS2020.

#### NeurIPS 2020 Workshop TDA and Beyond

Reviewed short papers for a topological data science workshop.

#### ICLR 2021 Geometrical and Topological Representation Learning

Reviewed papers for a mathematics workshop.