

Egg Davis / Syntax

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Independent AI safety researcher dedicated to decreasing catastrophic and existential risk from AI, with an extensive background in software engineering. Current research interests include LLM generality and whether they can scale directly to AGI, and understanding & shaping self-models in LLMs.

Work

Independent AI Safety Researcher

2023 - Present

- Shifted toward AI safety research with MATS and the MATS extension program under the mentorship of Jessica Rumbelow (Leap Labs). Investigated the models that LLMs build of text authors (as a proxy for users).
- Research into LLMs' ability to perform the kinds of reasoning needed to do autonomous novel research, resulting in several online posts.
- Currently mentoring and leading an AI Safety Camp project directly investigating LLMs' ability to do autonomous research on randomized novel toy domains.

Capitol AI

2022 - 2023

- Early employee at automated-data-insights startup (pivoted to AI-based document creation app).
- Collaboratively building an AI-based system on top of GPT-4 and Dall-E, using retrieval-augmented generation, tree of thought, prompt engineering, and toolformer-related techniques to create and iterate on sophisticated articles from user-supplied prompts.
- Brought the flagship app from zero to production, with lead responsibility for the back-end and heavy involvement on the machine learning side.

Reify Health

2021 - 2022

- Initiated the decoupling of a large multi-year monolith, creating the patterns for separate services and implementing the first of those.
- Supported the organization through 10x growth over the course of a year, and expansion to 50 countries around the world.

Democracy Works

2018 – 2021

- Working in a semi-autonomous Tools/QA role at non-partisan nonprofit, focused on improving the developer experience to constantly improve the speed and safety of feature development.
- Working as part of the team that scaled our flagship product from one million to ten million users over the past two years.
- Developed API allowing trusted external partners to create users for the first time, resulting in millions of new users.

Transportation Insight

2016 – 2018

- Designed and implemented substantial customer-facing custom analytics suite.
- Designed and implemented a large-scale, web-based, line-of-business single-page application serving employees in a wide range of roles within the transportation logistics field.
- Clojure/ClojureScript-based React web architecture with extensive Datomic backend handling sophisticated data transformation, access, and initiation.

SiftSpace

2015 – 2016

- Exploratory startup founder, creating advanced in-browser visualizations of highly multidimensional climate data using a full Clojure/ClojureScript stack on AWS.
- Developed a sophisticated front-end stack for interactive, animated, three-dimensional custom visualizations in the browser.

Global Science & Technology

2014 – 2015

- Senior software engineer and project lead for on-site consulting with the National Centers for Environmental Information.
- Automated the parallelized processing of satellite data into combined global datasets showing global infrared, visible, and water vapor data (Python).

Socialserve.com 2013 – 2014

- Refactored, extended, and improved code base which helps clients with a wide range of special needs connect to housing (Python).
- Created and combined systems to create new tools for disaster victims (Python, SQL).

Climate Reference Network, National Climatic Data Center 2008 – 2012

- Developed and implemented a new sensor fusion algorithm enabling increased accuracy of climate measurement for the United States (Python, Java).
- Designed and implemented a domain-specific language enabling climatologists to obtain, filter, analyze, and visualize climate data. (Python)
- Designed and implemented Flex visualizations of climate data, including two novel visualization techniques (ActionScript, Java).
- Maintained and developed codebase for data ingest from 200+ climate stations; achieved eightfold increase in data ingest efficiency (Perl).

Education

University of North Carolina at Asheville	2008
Bachelor of Science, Computer Science (Magna Cum Laude)	
Bachelor of Arts, Multimedia Arts and Sciences (Magna Cum Laude)	
Temple University, Philadelphia, PA	1995
Bachelor of Arts, Philosophy (Magna Cum Laude)	

Publications

- Syntax, Egg. "Numberwang: LLMs Doing Autonomous Research, and a Call for Input." 01/2025. <https://bit.ly/numberwang-af-post> (Alignment Forum).
- Syntax, Egg. "LLMs Look Increasingly Like General Reasoners." 11/2024. <https://bit.ly/llms-look-general> (Less Wrong).
- Syntax, Egg. "LLM Generality is a Timeline Crux." 06/2024. <https://bit.ly/llm-reasoning> (Alignment Forum).
- Syntax, Egg. "Language Models Model Us." 05/2024. <https://bit.ly/language-models-model-us> (Alignment Forum).
- Leeper, Ronald; Palecki, Michael; Davis, Egg. "Methods to Calculate Precipitation from Weighing-Bucket Gauges with Redundant Depth Measurements." *Journal of Atmospheric and Oceanic Technology*, vol. 32, no. 6, 2015, pp. 1179–1190. doi:10.1175/jtech-d-14-00185.1.
- Leeper, Ronald; Davis, Egg; Palecki, Michael. "J2.8 Precipitation Quality Assurance Methods for Weighing Bucket Precipitation Gauges Having Three Redundant Measurements." Conference proceedings.

Personal projects

- Open source libraries, including datawalk, with > 6000 downloads: <https://github.com/eggsyntax/datawalk>.
- A number of grant-supported and personal generative art and data art works.