

# gavin leech

AI researcher / technical generalist

g@gleech.org

Site

Scholar

Twitter

Github

LinkedIn

## interests

reviews,  
getting into things,  
metascience,  
self-calibration,  
failures of reasoning,  
failures of reasoning  
about reasoning,  
lists.

## experience

2021 – Now	<b>Founder</b>	ARB RESEARCH
	Researching AI, forecasting, metascience, and cause prioritisation for Schmidt Futures, Open Philanthropy, Future of Humanity Institute, Mercatus.	
2022	<b>Interim Director</b>	ALERT
	Setup & executive search for 'Active Longtermist Emergency Response Team'	
2021 – Now	<b>Head of Camp</b>	EUROPEAN SUMMER PROGRAM ON RATIONALITY
	I help run experiential maths camps: hiring, curriculum design, teaching. My sessions: research skills, speculative astronomy & cultural literacy.	
2020 – 2021	<b>Researcher</b>	EPIDEMICFORECASTING.ORG
	Modelled Covid, resulting in work in Science, NeurIPS, PNAS. Led a major epidemiological study of facemasks from data collection to journal review.	
	> PyMC3, MRP (hierarchical Bayes), SEIR, AWS, Azure, Seaborn	
2019 – 2021	<b>Teaching Assistant</b>	UNIVERSITY OF BRISTOL
	Solo instructor in CS tutorials & training other TAs. Bayesian ML & Algos 2.	
	> Gaussian processes, graphical models, Bayes opt, VI, graph theory	
2018 – 2022	<b>Technical Reviewer</b>	AI SAFETY CAMP
	Vetting & interviewing for the world's ~1 <sup>st</sup> intro programme to safety research.	
2016 – 2019	<b>Data Scientist</b>	AXA INSURANCE
	Actuarial pricing, image recognition. Tech lead for 5 scientists & engineers.	
	> Python, Spark, Tensorflow, Keras, XGBoost, Tableau, bash, Pig, GDPR	
2015	<b>Software Developer</b>	STUGO
	Jumped into web dev; code deployed worldwide within weeks. 3rd employee.	
	> C#, WPF, nodeJS, MEAN, Ractive, Mongo, Vagrant, VMware	

## awards

Emergent Ventures grant for general career support

FTX EA Bahamas residency; Prague Fall Season fellow.

Top prize, Cybercrime NLP Hackathon, Dutch Serious Crime Unit.

EA Forum Prizes for models of AI safety and the best-case government response to Covid.

## publications

Mask wearing in community settings reduces Covid transmission (2022), [PNAS](#)

Seasonal variation in Covid transmission (2022), [PLOS Comp Bio](#)

Safety Properties of Inductive Logic Programming (2021), [SafeAI @ AAAI](#)

Effects of nonpharmaceutical interventions against Covid (2020), [Science](#)

How robust are Covid estimates? (2020), [spotlight @ NeurIPS](#)

Legally grounded fairness objectives (2020), [arXiv](#)

## education

**PhD Artificial Intelligence**, University of Bristol. 2024 finish. First year: research Master's. Second: Covid modelling projects. Third: work in ML safety. Fully funded by the EPSRC.

> probability theory, Bayesnets, deep learning, computational logic, SVMs, RL.

**MSc Software Development**, University of Glasgow. 82% GPA. Thesis: *Hidden Markov Models for Linguistic Accommodation*

> Assembly, Java, SQL, HTML/CSS/PHP, design patterns, data structures & algos.

**BSc Mathematics & Statistics**, The Open University. 89% GPA (First). Part time alongside full-time work. Reviewed [here](#).

> Number theory up to Chebyshev, probability up to diffusion processes, regression to GLMMs, numerics to BFGS, linear algebra to multi-linear, lore of RCTs & meta-analysis

## projects

**Side effects in Gridworlds:** [New environments](#), DQN, & MaxEnt IRL in Tensorflow, [cited](#)

**Reversals in psychology:** [Collated](#) the replication crisis; writeup in [Nature](#)

**ProlexaPlus:** [Brought](#) modern language modelling (Flair) into Prolog for some reason

## breadth

Well-received work in epidemiology, philosophy, psychology, economics, ML, linguistics, software. No prior background in psychology, epidemiology, linguistics. Breadth implies speed: had a <3 month ramp to great publications in epidemiology; also went from no web dev experience to production code in 2 weeks.

## judgment

Brier score of 0.16 after a year of fairly hard questions on [Predictionbook](#).

Top forecaster in Nuño Sempere's [Value Forecasting Tournament](#).

On the resolution council of [Parallel Forecast](#), a short-lived AI prediction market.