



# AI Needs Independent Research

## (Not More Corporate Codes of Ethics)

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# Artificial Intelligence at Google: Our Principles

Google aspires to create technologies that solve important problems and help people in their daily lives. We are optimistic about the incredible potential for AI and other advanced technologies to empower people, widely benefit current and future generations, and work for the common good.



### Responsible AI

We are committed to the advancement of AI driven by ethical principles that put people first.

▶ Play video on our approach

## **Microsoft to pay \$97 million to settle 'permatemp' case**

Outcome could mean that other companies have to offer benefits to at least some of their temporary and contract workers.

## **'I'm not a robot': Amazon workers condemn unsafe, grueling conditions at warehouse**

Employees under pressure to work faster call on retail giant to improve conditions - and take their complaints seriously

## **Cloud wars: Four tech giants vow to take the military into the cloud**

Revealed: Google illegally underpaid thousands of workers across dozens of countries

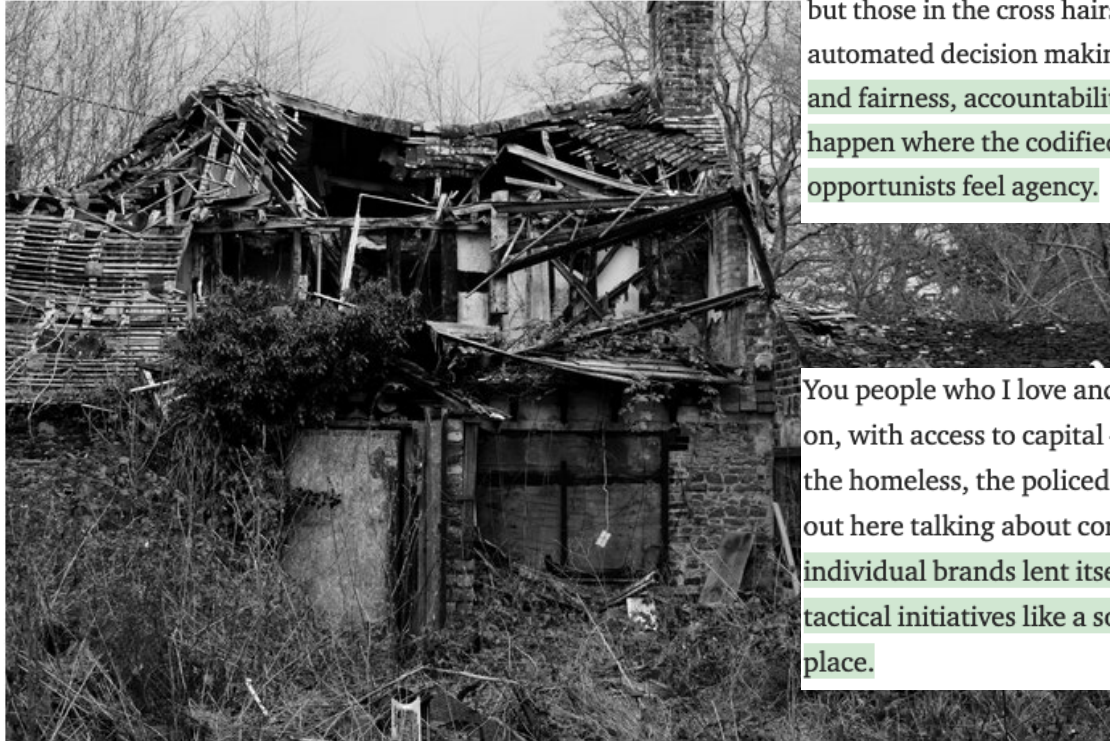


J. Khadijah Abdurahman

Dec 7, 2020 · 6 min read · [Listen](#)



## On the Moral Collapse of AI Ethics



The stakes are high, the situation is grave-not for any individual engineer's life but those in the cross hairs, impacted by facial recognition technologies, automated decision making systems, etc. The failure of the AI ethics initiatives and fairness, accountability transparency framework has allowed this moment to happen where the codified institutional resistance is immobilized and only the opportunists feel agency.

You people who I love and respect- out here with your AI resistance headbands on, with access to capital — but inhibited by your bourgeois anxiety — refugees, the homeless, the policed etc are for better or worse counting on you and you're out here talking about corporate diversity. If the room taken up with building individual brands lent itself to researching *with* those most impacted; developing tactical initiatives like a social justice war room — we'd be in a very different place.

Photo by [Issy Bailey](#) on [Unsplash](#)

ARTIFICIAL INTELLIGENCE

# We read the paper that forced Timnit Gebru out of Google. Here's what it says.

The company's star ethics researcher highlighted the risks of large language models, which are key to Google's business.

By Karen Hao

December 4, 2020

On the evening of Wednesday, December 2, Timnit Gebru, the co-lead of Google's ethical AI team, announced [via Twitter](#) that the company had forced



# Language Modeling and Environmental Costs

Model	Hardware	Power (W)	Hours	kWh·PUE	CO <sub>2</sub> e	Cloud compute cost
Transformer <sub>base</sub>	P100x8	1415.78	12	27	26	\$41–\$140
Transformer <sub>big</sub>	P100x8	1515.43	84	201	192	\$289–\$981
ELMo	P100x3	517.66	336	275	262	\$433–\$147
BERT <sub>base</sub>	V100x64	12,041.51	79	1507	1438	\$3751–\$12,571
BERT <sub>base</sub>	TPUv2x16	—	96	—	—	\$2074–\$6912
NAS	P100x8	1515.43	274,120	656,347	626,155	\$942,973–\$3,201,722
NAS	TPUv2x1	—	32,623	—	—	\$44,055–\$146,848
GPT-2	TPUv3x32	—	168	—	—	\$12,902–\$43,008

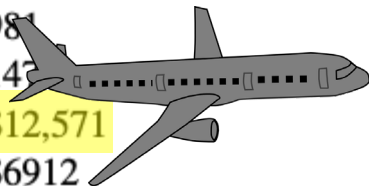


Table 3: Estimated cost of training a model in terms of CO<sub>2</sub> emissions (lbs) and cloud compute cost (USD).<sup>7</sup> Power and carbon footprint are omitted for TPUs due to lack of public information on power draw for this hardware.

Strubell, Ganesh, and McCallum. “Energy and policy considerations for deep learning in NLP.” ACL 2019.

# Language Modeling and Environmental Equity

“Is it fair or just to ask, for example, that the residents of the Maldives (likely to be underwater by 2100) or the 800,000 people in Sudan affected by drastic floods pay the environmental price of training and deploying ever larger English LMs, when similar large-scale models aren’t being produced for Dhivehi or Sudanese Arabic?”

Bender et al. 2021. “On the Dangers of Stochastic Parrots: Can Language Models Be Too Big? □” *FAccT 2021*.

**We need a different path for AI.**



# DAIR Principles



Community, not exploitation



Healthy, thriving researchers

Comprehensive, principled processes



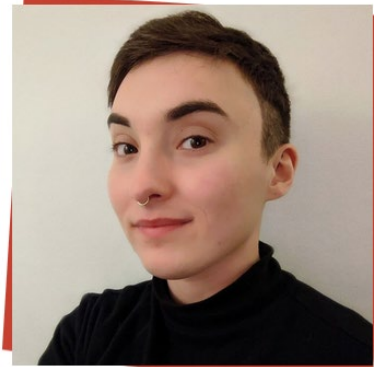
Proactive, pragmatic research



Timnit Gebru



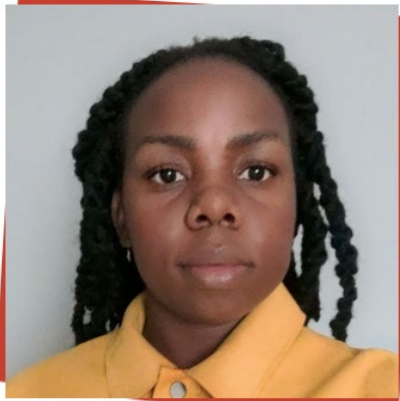
Alex Hanna



Dylan Baker



Safiya Noble



Raesetje Sefala



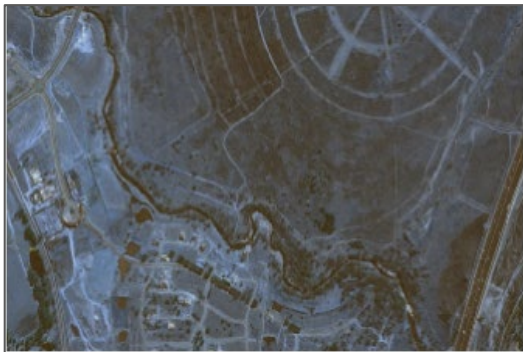
Mila Miceli

Fellows

Advisory  
Committee



Ciira wa Maina



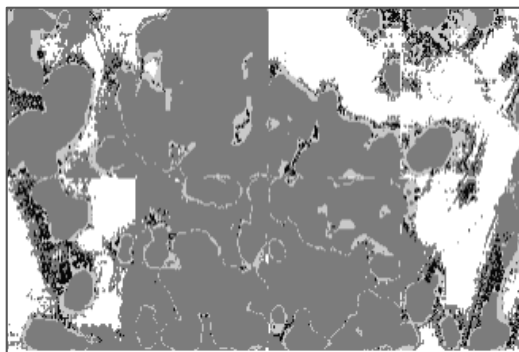
2011 Satellite



2011 Human Labels



2017 Satellite



2017 Inferences

## Studying the legacy of spatial apartheid in South Africa

How can data and computer vision be used to support desegregation?

Sefala et al. 2021. "Constructing a Visual Dataset to Study the Effects of Spatial Apartheid in South Africa." *NeurIPS (Data and Benchmark Track) 2021*.

# How the AI industry profits from catastrophe

As the demand for data labeling exploded, an economic catastrophe turned Venezuela into ground zero for a new model of labor exploitation.



These days, the dwindling number of tasks available on Appen keeps Fuentes tethered to her computer.

JOANA TORO

**“This type of economy as it’s structured [does not] work in the long run.”**

– DAIR Fellow Mila Miceli

How do we build and research *with* data workers, especially in the Global South?



# Learn more about DAIR

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