
DIVERSITY + ETHICS IN AI - 2020



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Foreword

“It’s not like we are saving lives.”

I often heard this refrain from well-intentioned peers and managers attempting to calm frazzled nerves at “Move fast, break things” Silicon Valley tech companies. When my mom passed away in 2011, this innocuous phrase took on a sinister connotation and had me questioning - Why aren’t we saving lives? What could possibly be a worthier use of technology?

It finally dawned on me that for all the lofty talk about “democratization” of technology, the industry that touted itself on hiring the “best and brightest” had tasked that immense talent with designing fancy new widgets merely to sell more advertising and/or to cut costs, while the non-revenue-generating boring work of “saving lives” was relegated to “do-gooder” or “innovation” departments.

This marked the beginning of my winter of disillusionment with the tech industry. I launched Lighthouse3, an emerging tech research and advisory firm in 2014 and noticed that outside of the tech bubble, there was an entire universe of enterprises who were held to a much higher regulatory and ethical standard because of their direct impact on consumers. As Artificial Intelligence (AI) technologies proliferate and permeate every aspect of our lives, it’s becoming increasingly hard to ignore the insidious implications of unrestrained AI exacerbated by lack of ethical standards.

I was and am still convinced that a big part of why AI is often developed and deployed with critical flaws is related to exclusion of women and people of color. This lack of diverse perspectives manifests as ethical blind spots in AI. In 2018, I published a list of 12 brilliant women who were spearheading critical work in ethical and responsible AI when a subtweet caught my eye. A leading expert in this space voiced that my list was biased in favor of women in North America. My dad had passed away that same month and I was devastated, depressed, and desperate for inspiration. So, I fired up my laptop and started researching who else was working in this space.

During this process, I discovered many amazing women working on the underrated task of saving humanity from the unintended consequences of AI, which was truly inspiring and gave me tremendous hope for the future. I wanted to keep going and reluctantly hit the publish button on October 29, 2018 and voila, the very first, “100 Brilliant Women in AI Ethics” list was born.



~ Mia Dand, CEO – *Lighthouse3*, Founder – *Women in AI Ethics*

Gratitude

We have come a long way, but we could not have done it without the support of many incredible folks.

Women in AI Ethics (WAIE) Council and Advisory Committee members who took the time to review and vet hundreds of nominations.

Joy Buolamwini to whom I remain eternally grateful for her seminal work in AI Ethics and support for diversity.

Kathy Baxter and Danielle Cass who hosted the first WAIE summit at Salesforce.

Josh Luebke and Alexa Easley for hosting the first WAIE + Allies summit at Microsoft.

Marina Jirotko and Carolyn Ten Holter for bringing WAIE to Oxford and being fierce leaders for WAIE.

Safiya Noble, Shannon Vallor, Gina Neff, Michelle Carney (SFMLUX), Timnit Gebru (Black in AI), Alexandra Johnson (WIMLDS) and many other incredibly brilliant women who continually use their platform to lift others up.

Rae for being our moral center and ensuring that everything we do is ethical and inclusive.

Drashya Kuruwa and his amazing team at [Evantrix](#) for building our beautiful online directory and supporting our mission.

Last but not the least, many thanks to our many male allies who have been wonderful partners in championing the need for more diversity and ethics in AI.

“Only when all the dissonant voices of unconscious biases are quieted, and the social-, physical-, mental-, economic-, geographic-, and gender-disadvantaged given equitable parts to sing, will there be a harmonious choir of effective and fair techno-social systems.”

~ Angela Richmond-Fuller @ARichmondFuller

Diversity + Ethics in AI

“Any (AI) technology that excludes women and marginalized voices is inherently unethical.” ~Mia Dand

Ethics is not glamorous work. It is painstakingly hard to define what ethical or responsible technologies look like, let alone build the necessary frameworks to nudge biased and self-serving organizations to follow the ethical yellow brick road. It's an open dirty secret that no one gets awards for slowing things down by doing the right thing in the tech world, least of all women and people of color who are already victims of systemic gender and racist bias. We're already seeing retaliation by big tech against women who have spoken out against unethical use of AI technology. This makes it even more imperative that we support women who are championing the ethical cause even at the risk to their own jobs and well-being.

The response to the original list was overwhelmingly positive, although admittedly many amazing women were left off the list since it was capped at 100. But minor critiques aside, the list was able to achieve something significant in that it sparked a very necessary conversation about the powerful role and influence of women in this very critical space. It encouraged women who weren't as well-known or influential to feel like they belonged in this critical conversation and opened up opportunities for many of them. .

Some wonder why women have been so impactful and visible when it comes specifically to ethics of AI when the field of technology has been dominated by men for so long. Many power factors have culminated to bring us this AI Ethics revolution.

First, there is growing awareness that technologies built by white male engineers and designed to maximize profits may not serve the best interests of the broader society. Systems built by men can overlook issues that impact other genders, which can have life threatening consequences.

Second, marginalized groups are more likely to be impacted by systemic biases that are baked into these technologies implicitly or explicitly and hence, they are more attuned to these issues. A darker skinned person will notice when a facial recognition technology doesn't recognize them, and to a non-binary person, the lack of gender-neutral pronouns in datasets is acutely visible.

Lastly, there has been a radical shift in the collective comfort level with the status quo, especially among women and within marginalized communities. The conciliatory, “If you can't change it, accept it” has been shown to be ineffectual and has instead been replaced by the fiery, “If you can't accept it, change it!”.

As we get ready to close out 2019 and ring in the new year, it's time to recognize the women who are bringing about much-needed awareness and helping address the consequences of recklessly developed and deployed AI.

“Are we there yet?”

Tokenization of minorities, even if well-intentioned is undermining progress in addressing gender and racial inequities. The popular notion that lack of diversity in tech will be solved by adding one token minority to panels or by trotting out one person of color during a PR blitz is delusional at best.

Claiming that one woman you invited to be on your panel didn't show up is a facile excuse and disingenuous justification for an all-male panel (manel). Our recommendation to all event and conference organizers is to recruit women and people of color first and once those slots are filled, invite white men to fill the remaining slot/s.

Being intentional about fostering diversity whether it's at events or on product teams is more sustainable than a PR blitz. That said, if women are refusing to speak at your event or join your company, perhaps it's time for some honest introspection and evaluation of whether your organization has a hostile environment.

Folks sounding the alarm on harmful consequences of AI are often dismissed as luddites even when there is plenty of evidence to the contrary. Embracing any technology mindlessly isn't a virtue despite what we have been programmed to believe. Much of the critique of AI technologies comes from women with deep subject matter expertise based on years of research while the hype around AI is often from folks shilling and benefitting from said technology.

To those who believe that technology should be left to engineers and ethics left to ethicists, never the two shall meet, I say this: While there is definitely a need for highly specialized knowledge when building complex systems and navigating the intricacies of ethics/morality, this cannot be an intellectual debate in the echo chambers of tech and philosophy, while ignoring the humans most likely to be negatively impacted by these technologies.

Cars might be built by engineers but safety features like seat belts and air bags were designed to meet safety standards influenced by humans who don't want to go flying out the window or get crushed when things go wrong. The role of civilians and folks from non-technical disciplines in these discussions cannot and must not be underestimated.

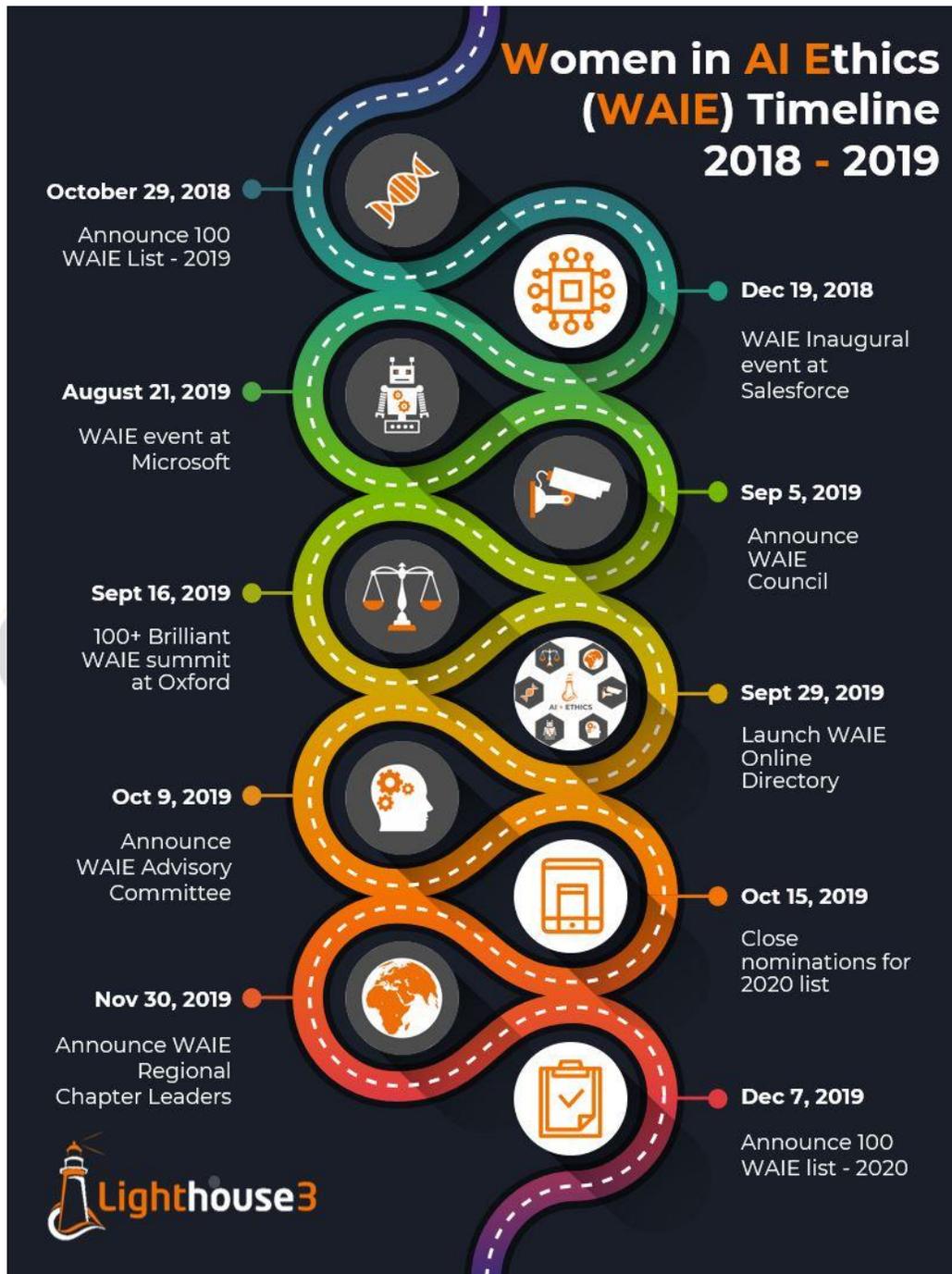
For all the breathless chatter about how regulation kills innovation, how many innovation evangelists are comfortable riding in a car without any safety features? But these same folks have no compunction about unleashing unproven facial recognition technologies that could incarcerate innocents for life because of some naïve belief that AI technologies are objective or self-serving notion that negative consequences aren't significant for “good folks like us” to be concerned about it.

That all said, systemic biases will not be overturned overnight or through half-baked measures. It's up to each one of us to speak up when we see these instances of gender bias, racial inequity, or just plain old-fashioned hype in AI and support women, especially those without privilege or power who are working hard to save humanity from itself.

If not us, who? If not now, when? It will take all of us working together to build a more ethical, diverse, and equitable future for everyone.

Women in AI Ethics Timeline & Milestones

2019 was a very eventful year and we hit many significant milestones. We introduced a comprehensive 6-dimensional AI Ethics framework that recognizes the critical intersectionality of various ethical issues in AI. We launched [Women in AI Ethics online directory](#) to make it easier to find and nominated talented women by location and area of focus. We created a global Diversity in AI Calendar, launched the AI Ethics Newsletter, set up regional chapters, and more.



100 Brilliant Women in AI Ethics 2020 List – highlights

The mission of WAIE initiative is to recognize and empower brilliant women working on the ethics of AI.

It was heartening to see many leaders from the 2018 Women in AI Ethics list like Joy Buolamwini, Kathy Baxter, Safiya Noble, Meeri Haataja, and many others who continue to lead the way and set the bar for quality of work in this space.

Over 50% of the names on our list for 2020 are new with bright stars like Bahar Sateli, Mutale Nkonde, and Danielle Cass. This is a very encouraging sign as it signals that we are expanding the conversation and not just creating another echo chamber.

While we don't explicitly track gender, race, ethnicity, or orientation, we prioritize underrepresented groups and this year we are thrilled to recognize women who are leaders in these communities like Timnit Gebru + Rediet Abebe - Black in AI, Natalia Bilenko - Queer in AI, and Elisa Celis - Latinx in AI.

We highlighted women in regions with significant developments in AI Ethics and deserving of recognition - France: Raziye Cetin, Germany: Carla Hustedt, Switzerland: Dorothea Baur, Ireland: Katherine O'Keefe.

While the 2020 list was dominated by US and Europe, we have been able to introduce new voices from underrepresented geographical areas such as Bec Johnson - Australia/New Zealand; Vidushi Marda, Aparna Ashok – India, Fatmah Baothman - Middle East.

We also highlighted experts who focus on East Asia but are based in Europe like Danit Gal and others like Latifa Al-Abdulkarim, who is originally from Saudi Arabia but now resides in the U.K.

You can see the complete list of brilliant women in AI ethics for 2020 [later](#) in this report.

“This is more than just a technical problem. Our systems will only work for everyone if they are designed with multiple voices in the room, every step of the way. Humans have a propensity for designing for the familiar. To change this default, we have to challenge our own assumptions and continue to learn from a diversity of perspectives”.

~Tulsee Doshi @tulseedoshi

What's next for WAIE?

Our work is centered around 3 key pillars:

- Recognition
- Diversity and inclusion
- Economic empowerment

Recognition

We can't have representation without recognition of women doing the hard work. Towards that end, we provide a platform to recognize more women working in this space and highlight those who are typically overlooked by the industry because they lack the ivy league credentials or ties to well-known industry giants. Our work has been validated by organizations who use the online directory to find talented women speakers and recruit more diverse engineering/development teams.

Diversity and inclusion

Diversity is a journey not a destination and it comes in many forms. In addition to recognizing underrepresented groups, we also want to invite more women into this space. We especially want more women with non-technical backgrounds to join our community so that we can build more inclusive technologies and build a diverse future talent pipeline

Economic empowerment

We can't have equality without equity. Talk is cheap and doesn't pay the bills. We need to empower women, especially those without a technical background from marginalized communities and empower them with resources, training, and skills they need to succeed in AI roles. Towards that end, we are also helping women find opportunities specifically in the area of ethics of AI so they can be beacons that shine the light in the darkest places within powerful organizations.

"Do we want to eliminate bias in AI? No. We want the right sort of bias. It's unjustified bias that's the problem. One might even describe the practice of ethics as the enactment of legitimate bias. Bias towards the good, the true, the beautiful; bias towards those in need, the powerless, the sick. We can stand idle while AI makes our unjustified biases worse; or we can also use it to help us reduce them; to create the biases we want.

~ Dr. Paula Boddington @PaulaBoddington

WAIE Roadmap for 2020

Diversity is a journey, not a destination and our work is far from done. To support these 3 key pillars, our goals for 2020 include:

Online directory

Expand the community and platform:

- Encourage and invite more nominations from non-technical disciplines
- Address geographical gaps in representation from Africa, Australia, and Asia
- Add more ethical tools, frameworks, and resources to the online directory
- Add enhanced features to make it easier for event organizers, recruiters to find talented women

WAIE 100 list for 2021

Add new categories:

- “Rising stars” – recognize talented women in AI Ethics who are still at the start of their careers
- “Ethical AI Technologies” – recognize startups and established orgs that show true commitment to developing responsible and ethical AI

Partnerships and resources

Develop partnerships and resources to deliver the following:

- Ethics training and workshops
- AI Ethics events and conferences
- Ethical resources like research, frameworks, and tools

Get involved

Here’s how you can support the WAIE effort.

- Sponsor/host Women in AI Ethics events
- Fund our research on Diversity + Ethics in AI
- Nominate more women for the WAIE online directory
- Use the directory to recruit/hire speakers, consultants, and team members
- Email us to discuss more opportunities for collaboration DiversityinAI@gmail.com

*“Diversity and Ethics in AI are key to democratizing and monetizing.
This is a clear win for the industry to get behind.”*

~ Sarah L. Feldman @SarahFeldmanSF

AI Ethics Framework

The exponential growth of AI and potential for significant harm necessitates a comprehensive and inclusive approach. In 2019, based on an extensive evaluation of the AI ecosystem and implications of AI, we introduced a holistic framework for AI + Ethics with 6 dimensions that consider all ethical implications of AI beyond just technology.



Roles + Rights

Mitigate disruption of human lives, rights, roles, and relationships as AI replaces humans through automation & human-like systems.

Lead/s: Julie Carpenter & Pearlé Nwaezeigwe



Society + Sustainability

Promote use of AI for social good, through access for marginalized groups, mitigation of environmental impact, and development of public interest policies.

Lead/s: Dorothea Baur & Amy Chou



Privacy + Data

Ensure that data for AI/ML is gathered (surveillance), how it's used/shared (consent), and secured from abuses.

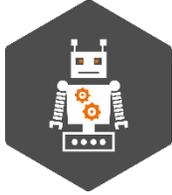
Lead/s: Hessie Jones



Fairness + Accountability

Ensure AI/ML models are transparent, explainable, and fair so they do not amplify systemic & societal injustices and biases of their creators.

Lead/s: Natalia Bilenko & Elisa Celis



Commercial Systems + Safety

Provide guardrails and regulations for development of commercial (user-facing) autonomous systems, artificial agents that are ethical and safe. **Lead/s:** Mia Dand



Digital + Physical Safety

Establish safeguards against threats to digital and physical safety through deep-fakes, bots, autonomous weapons, and bio/neural AI.

Lead/s: Anja Kaspersen

Women in AI Ethics (WAIE) Council

The members of **Women in AI Ethics council** help identify and include new voices in this space, they represent WAIE efforts at conferences, vet the nominations for the directory and 100 list, and provide feedback so that we can continue to make progress on this important initiative. Each council member focuses on their area of expertise based on the 6 dimensions of AI Ethics Framework and helps refine the scope of the dimension and ensure it's relevant as this space evolves.



Amy Chou (Society + Sustainability) @ai4allorg
Corporate Partnership Manager, AI4ALL

<https://www.linkedin.com/in/amchou/>

Amy Chou is a human being who deeply cares about unlocking human potential. She brings her deep expertise from the private sector to build long-lasting partnerships between AI4ALL and innovative companies who are excited to support AI4ALL in changing the face of AI.

“For AI to reach its full potential to benefit humanity, it is important to increase the diversity of AI practitioners, creators, and leaders, so that there can be more creative solutions to a wider variety of problems. Our collective future depends on it. That is the only way we'll be able to create tools to ensure that everyone has equal opportunity to lead healthy and fulfilling lives.”



Anja Kaspersen (Physical + Digital Safety) @AnjaKasp
Director, UN Disarmament

<https://www.linkedin.com/in/anja-kaspersen/>

Anja Kaspersen is a dynamic and experienced leader, changemaker, practitioner and storyteller. International Security, Intrapreneur, Digital Anthropology.

Anja has dedicated herself to helping governments, international organisations, companies and people to engage with and understand new waves of innovation and the transformative impact of new technologies. She is passionate about reverse-engineering traditional ways of looking at international security policy, innovation and technology governance.



Dorothea Baur (Society + Sustainability) @dorotheabaur
Independent Consultant, Baur Consulting AG

<http://www.baurconsulting.ch>

An independent consultant and subject matter expert with more than 15 years experience in applied ethics with a special focus on ethics in the tech (AI) and finance industry. Dr. Baur has a PhD in business ethics and is a frequent lecturer, author and public speaker.

“The success of AI depends on its accuracy, effectiveness and legitimacy (incl. fairness and accountability). A key influence on these factors is played by the data that guides

algorithmic decision-making and by the people who program the algorithms. But at the moment, neither the data nor the programmers are necessarily representative of the people affected by AI-based decisions. Successful AI of the future must represent people in all their diversity throughout the lifecycle of any application. We need to have ethics and diversity in the loop!"



Elisa Celis (Fairness + Accountability) @profelisacelis

Assistant Professor, Yale University

<https://www.linkedin.com/in/elisa-celis-685a8329/>

Experienced Senior Research Scientist with a demonstrated history of working both in industrial research and in academia with a doctor of Philosophy (Ph.D.) in Computer Science & Engineering from University of Washington. Proven track record in research related to Crowdsourcing, Online Learning and Human Factors. Current research interests focus on designing algorithmic tools to combat bias in AI and machine learning.



Hessie Jones (Privacy + Data Rights) @hessiejones

Author, strategist, tech journalist (Forbes · VentureBeat)

<https://www.linkedin.com/in/hessiejones/>

Hessie has a passion for Global Privacy & Security by Design. technology and tries to stay on the cutting edge of the Internet, artificial intelligence, social media, and video and how they impact marketers and advertisers as the media landscape morphs with these mediums.



Julie Carpenter (Roles + Rights) @jgcarpenter

Research Scientist, Accenture

<http://www.jgcarpenter.com>

Julie Carpenter's research focuses on human behavior with emerging technologies, especially within vulnerable and marginalized populations. She situates experiences within their larger cultural contexts and social systems to offer a framework for describing what phenomena are occurring and explain how people's expectations, behaviors, and ideas adapt and change over time as they work and live with new technologies.

"We must critically question why and how we have historically decided to uphold homogenous ways of thinking about how we envision and build AI. To develop AI that is truly valuable and complementary to our very human goals, we have a responsibility to recognize people have common and uncommon experiences in the world--and how the gatekeepers of AI R&D prioritize some experiences over others, systematically normalizing some points of view while others are disregarded or dismissed. To be successful in AI endeavors, listening to a variety of viewpoints also requires consistent actionable behaviors such as inclusion; inviting and valuing a variety of culture, life, and professional experiences throughout decision-making.

Of course, ethical frameworks for AI development must prioritize human emotional and physical safety for everyone. Furthermore, in AI R&D we should not be the

guardians of ethics, but we must own that the technical advances we unleash have consequences--both expected and unanticipated--leaving us with desired outcomes and some surprises. The goals of AI's progress should not be measured solely by functionality or economics, but also by the moral outcomes of its use."



Natalia Bilenko (Fairness + Accountability) @unthevert
Machine learning engineer <https://nbilenko.com>

Natalia Bilenko is a freelance software engineer, experienced in predictive image modeling and data visualization and interested in algorithm interpretability and fairness. She received a PhD in neuroscience and a Masters in computer science from UC Berkeley. She is involved in advocacy for underserved groups in tech and machine learning, especially as an organizer for Queer in AI.

"While AI-based technologies are increasingly ubiquitous and have a tremendous potential for social good, the distribution of people who benefit from them is very skewed. This inequity results in further marginalization of people already underserved by existing power structures. Biased datasets, algorithmic unfairness, and lack of consideration for impacts of AI contribute to unjust social outcomes. We need diverse teams of AI practitioners who are able to work creatively and reflexively to develop technologies that can increase equity and mitigate algorithmic harms. Inclusion of diverse developers as well as involvement of viewpoints from other disciplines and backgrounds are essential for an ethical AI future."



Pearlé Nwaezeigwe (Roles + Rights) @wayzigway
Attorney, UC Berkeley
<https://linktr.ee/Pearlewae29>

Pearle Nwaezeigwe is a Nigerian Attorney, with a Masters in Law in international human rights from UC Berkeley. To be remembered as a Woman of color who broke boundaries, challenged the status quo for the preservation of digital rights in this era.

"Algorithm bias towards minorities is at an all-time high. It is pertinent that we have diverse voices from various walks of life to ensure fairness of these new technologies. This safeguards rights against discrimination not only for this generation but for the future generation."



Mia Dand (Commercial Systems + Safety) @MiaD
CEO, Lighthouse3
<https://www.linkedin.com/in/miadand/>

Mia excels in guiding large organizations on responsible innovation at scale with new & emerging technologies like Artificial Intelligence (AI). Mia is the creator of "100 Brilliant Women in AI & Ethics" list and founder of Women in AI Ethics online directory to empower, recognize, and recruit talented women in this space.

WAIE Advisory Committee

WAIE Advisory committee members have a stellar track record in the technology world and are relentless champions for diversity. They are responsible for vetting the shortlist of nominations for the 100 list and making sure that it represents diverse backgrounds and perspectives. Advisory committee members are disqualified from being considered for the 100 list to avoid conflicts of interest.



Carolyn Ten Holter @Carolyn_Ten
DPhil candidate in responsible quantum technologies, project marketing officer for ORBIT

<https://www.linkedin.com/in/carolyn-ten-holter/>

Carolyn Holter's current role on the ORBIT project encompasses work on responsible research and innovation and its applicability to ethical ICT initiatives including projects such as unbiased algorithms and responsible robotics. Carolyn's first degree was in Law, Carolyn has a PgDip in Marketing & Communications and a Masters in Information Science & Librarianship. She commenced a DPhil in responsible use of quantum technologies in Oxford's Department of Computer Science from October 2019.



Julia Rhodes Davis
Director of Partnerships, Partnership on AI

<http://partnershiponai.org>

<https://www.linkedin.com/in/julia-rhodes-davis-08106a10/>

A builder of organizations and communities, Julia Rhodes Davis is a seasoned leader who combines her expertise in technology, civic participation, and community development to advance social and economic equity. Julia Rhodes Davis is the Director of Partnerships for the Partnership on AI where she is responsible for building a diverse and collaborative Partner ecosystem to advance responsible and inclusive AI.

"In order for AI to benefit all people and society, development, deployment, and governance of these systems must include all people and society. Building inclusive AI systems is a project of claiming both agency and responsibility in and for the future we all want to live in."



Alaric Aloor @AlaricAloor
CEO – Archonsec

<https://www.archonsec.com/>

Focused on security, privacy, cloud, AI ethics, diversity, and inclusion



Zanoon Nissar @zanoonnissar
Global Diversity & Inclusion Lead - Google, Founder - Women4Good, Google & Women4Good

<http://www.women4good.com>

Zanoon has over 10 years of experience in the tech sector, and social impact initiatives. She runs Women4Good, an organization focused on connecting women with a passion for social impact.

“As someone who works in D&I at a large tech company, my job is to help bring ALL voices to the table. AI is no exception and if anything, it can be more challenging to ensure diversity here. I am so glad there is a dialogue and discussion around this important work.”



John Havens @johnchavens
Executive Director at The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems

<https://www.linkedin.com/in/johnchavens/>

As a writer, speaker, activist and consultant focusing on the intersection of technology and culture, John is trying to help people increase their wellbeing by taking a measure of their lives.

“As technologists, we build products, and we believe they will help people, we define metrics to show they do, but we often fail to grasp the gravity of when they don’t.”

~ Nalini Bharatula @purpultat

WAIE Regional Chapters

In 2019, we announced our first cohort of **WAIE regional chapter leaders**. These are regional ambassadors who support WAIE mission by encouraging more women to submit their nominations for the Women in AI Ethics (WAIE) directory. They provide feedback on the WAIE initiative and making it more impactful. They host regular events to support women/diversity and ethics in AI. They share regional news and developments with the community to raise awareness of issues in AI Ethics that impact regional communities. They share regional practices with the broader AI Ethics community so we can continue to make progress.

Australia



Angela Kim @angela22sky
Analytics Professional at ANZ focused on AI Ethics, Governance and Algorithmic Fairness. WAI Talk Speaker, Behaviour Analytics, Data Marketing Science and WAI Ambassador.

<https://www.linkedin.com/in/angela-kim-b3203a6b/>

"I believe in human centered AI and to reflect the society and community where we live, the AI based product and service should be based on fair algorithm, diversity and ethics in AI. That is why women/minority voices are so crucial for the future of AI that we are co-creating."

Japan



Arisa Ema
Project Assistant Professor at the University of Tokyo and Visiting Researcher at RIKEN Center for Advanced Intelligence Project in Japan.

Arisa Ema is a researcher in Science and Technology Studies (STS), and her primary interest is to investigate the benefits and risks of artificial intelligence by organizing an interdisciplinary research group. She is a member of the Ethics Committee of the Japanese Society for Artificial Intelligence (JSAI), which released the JSAI Ethical Guidelines in 2017 and also a board member of the Japan Deep Learning Association (JDLA) and chairing Public Affairs Committee. <https://arisaema0.wordpress.com/cv/>

"The face could become the final frontier of privacy... what kind of society do we want to be living in?"

~ Joy Buolamwini @jovialjoy



Máirín Murray @mairinmurray
Tech for Good Evangelist Tech for Good Dublin,
TechFoundHer

Máirín Murray is a highly creative digital innovator with a passion for creating technical products that produce a positive social impact. She is a TEDx speaker and co-founder of Tech for Good Dublin – an inclusive community of techies, activists and others which has been growing rapidly since it launched in 2017.

Máirín is a Philosophy graduate from Trinity College and has a keen interest in the ethical dimensions of technical innovations particularly AI.

<http://www.techforgooddublin.org>

“Diversity in AI is critical - the challenge we face is to prevent the biases and power imbalances in our society being replicated, amplified and hidden in AI systems. In order to create applications that are inclusive and fair – firstly we need people with every type of diverse life experience to be featured sufficiently in datasets and secondly we need diverse individuals to be involved in every step of production - from sourcing and training data to devising, designing, implementing and testing the solutions.

AI is fundamentally different and more powerful than other computer technology as its algorithms are not simply a set of instructions programmed by a human. Rather they are intelligent in the sense that based on scanning patterns in data an AI algorithm may modify or adapt to 'optimise' results. However, correlation is not causation and optimised results may contain fundamental flaws and be biased against individuals with certain characteristics where assumptions are made about them based on data patterns.

Ultimately 'optimal' is a value-based adjective and so what's the 'good' outcome needs to be considered from the beginning. As AI is being used in so many sectors from recruitment and finance to crime prevention the impact of flawed AI application can be devastating.

An ethical framework is essential to help shape and guide the impact of AI. It helps us choose which AI applications to develop but also helps determine how we evaluate the consequences of an AI system and is needed to ensure checks and balances are in place so that our society protects individuals from being harmed or disadvantaged by the use of AI.”

“Our reference data is going to shape our society, so we need to have diversity in data sets before we can have ethics in AI.”

~ Andra Keay @RobotLaunch

Spain



Emilia Gómez @emiliagogu

Researcher on music information retrieval (MIR) where she develops machine algorithm for music understanding. Beyond music, she researches on the impact of artificial intelligence in human behaviour. She currently leads the HUMAINT (HUMAN Behavior and MACHINE INTELLIGENCE in the Digital Transformation) lab at the Joint Research Centre, European Commission.

<http://emiliagomez.com>

“We need diverse teams to make sure that AI systems are developed with people and for people's welfare.”

U.K.



Jun Zhao @junszhao

Senior Researcher, University of Oxford

Senior Research Fellow in the Department of Computer Science at Oxford University with research focus on investigating the impact of digital technologies upon young children's lives and how we could best support them.

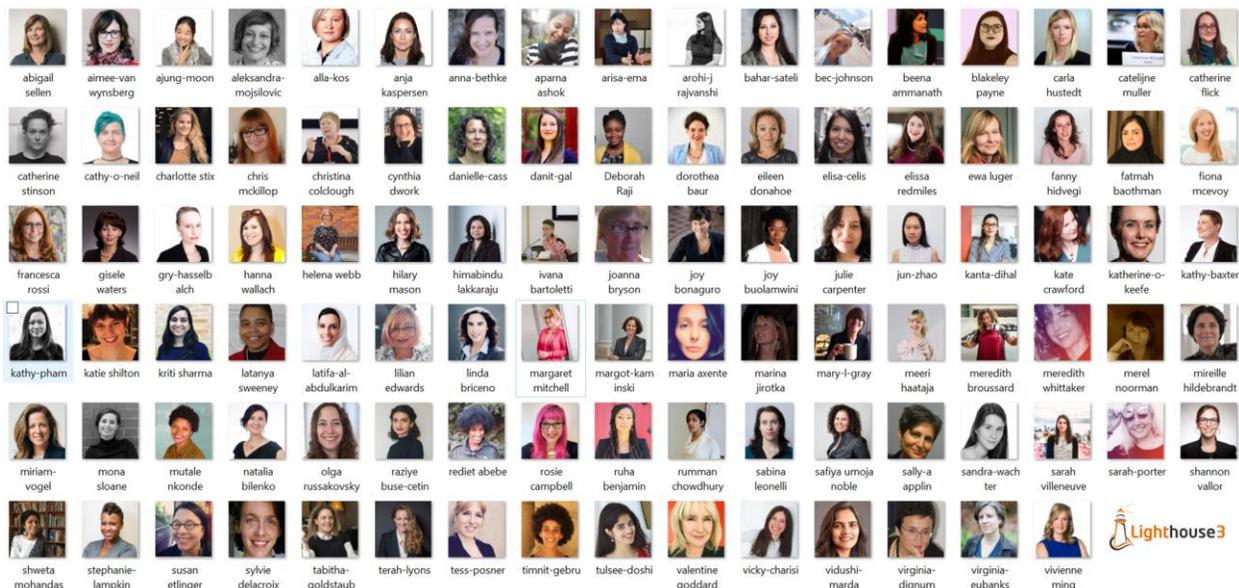
<https://sites.google.com/site/junzhaohome/>

“Once in a seminar about technologies in education, I asked the presenter why these technologies for education are developed in such an unresponsively way? The presenter, a veteran in this field, responded: because in the last few decades, the tech industry has been dominated by men and we need diversity to ensure these technologies for our children are developed in a more well-rounded and responsible manner! I just love it!”

“As someone who has become a mother recently, I have realized the importance of nurturing. You cannot give birth to a baby and be done - your responsibilities don't end there. You have to go through the process of nurturing them, providing a set of guidelines and teaching them to be responsible for their actions. The technology we develop should be treated no less. AI has become an integral part of life, we now have to make sure that we are responsible by providing the right set of rules not only based on safety but also moral guidelines that take diverse cultures into account. Just like I plan to do with my little one.

~ Dipika Mulchandani @dipikam86

100 Brilliant Women in AI Ethics – 2020



- | | |
|--------------------------|------------------|
| 1. Abigail Sellen | N/A |
| 2. Aimee van Wynsberghe | @aimeevanrobot |
| 3. Ajung Moon | @roboethics |
| 4. Aleksandra Mojsilovic | @datapriestess |
| 5. Alla Kos | @allakos_dev |
| 6. Anja Kaspersen | @anjakasp |
| 7. Anna Bethke | @data_beth |
| 8. Aparna Ashok | @aparnaashok_ |
| 9. Arisa Ema | N/A |
| 10. Arohi J Rajvanshi | @arohijn1 |
| 11. Bahar Sateli | @baharsateli |
| 12. Bec Johnson | @voxbec |
| 13. Beena Ammanath | @beena_ammanath |
| 14. Blakeley Payne | @blakeleyhpayne |
| 15. Carla Hustedt | @carlahustedt |
| 16. Cateljine Muller | @mullercateljine |
| 17. Catherine Flick | @catherineflick |
| 18. Catherine Stinson | @nerd_sighted |
| 19. Cathy O'Neil | @mathbabadotorg |
| 20. Charlotte Stix | @charlotte_stix |
| 21. Chris McKillop | @atscmc |
| 22. Christina Colclough | @cjcolclough |
| 23. Cynthia Dwork | N/A |
| 24. Danielle Cass | @daniellecass |
| 25. Danit Gal | @danitgal |
| 26. Deborah Raji | @rajiinio |

27. Dorothea Baur	@dorotheabaur
28. Eileen Donahoe	@eileendonahoe
29. Elisa Celis	@profelisacelis
30. Elissa Redmiles	@eredmill
31. Ewa Luger	N/A
32. Fanny Hidvegi	@infofannny
33. Fatmah Baothman	NA
34. Fiona McEvoy	@fionajmcevoy
35. Francesca Rossi	@frossi_t
36. Gisele Waters	@ethicalBAU
37. Gry Hasselbalch	@mediamocracy
38. Hanna Wallach	@hannawallach
39. Helena Webb	N/A
40. Hilary Mason	@hmason
41. Himabindu Lakkaraju	@hima_lakkaraju
42. Ivana Bartoletti	@ivanabartoletti
43. Joanna Bryson	@j2bryson
44. Joy Bonaguro	@joybonaguro
45. Joy Buolamwini	@jovialjoy
46. Julie Carpenter	@jgcarpenter
47. Jun Zhao	@junszhao
48. Kanta Dihal	@drdihal
49. Kate Crawford	@katecrawford
50. Katherine O'Keefe	@okeefekat
51. Kathy Baxter	@baxterkb
52. Kathy Pham	@kathytpham
53. Katie Shilton	@katieshilton
54. Kriti Sharma	@sharma_kriti
55. Latanya Sweeney	@latanyasweeney
56. Latifa Al-Abdulkarim	@latifamkarim
57. Lilian Edwards	@lilianedwards
58. Linda Briceno	@bricenolinda
59. Margaret Mitchell	@mmitchell_ai
60. Margot Kaminski	@margotkaminski
61. Maria Axente	@maria_axente
62. Marina Jirotko	@marenka
63. Mary L. Gray	@marylgray
64. Meeri Haataja	@meerahaataja
65. Meredith Broussard	@merbroussard
66. Meredith Whittaker	@mer__edith
67. Merel Noorman	@menoorman
68. Mireille Hildebrandt	@mireillemoret
69. Miriam Vogel	@VogelMiriam
70. Mona Sloane	@mona_sloane
71. Mutale Nkonde	@mutalenkonde

72. Natalia Bilenko	@unthevert
73. Olga Russakovsky	@ai4allorg
74. Raziye Cetin	@busecett
75. Rediet Abebe	@red_abebe
76. Rosie Campbell	@rosiecampbell
77. Ruha Benjamin	@ruha9
78. Rumman Chowdhury	@ruchowdh
79. Sabina Leonelli	@sabinaleonelli
80. Safiya Umoja Noble	@safiyanoble
81. Sally A. Applin	@anthropunk
82. Sandra Wachter	@sandrawachter5
83. Sarah Porter	@scolesporter
84. Sarah Villeneuve	@sarvilleneuve
85. Shannon Vallor	@shannonvallor
86. Shweta Mohandas	@says_shweta
87. Stephanie Lampkin	@stephaneurial
88. Susan Etlinger	@setlinger
89. Sylvie Delacroix	@sylviedelacroix
90. Tabitha Goldstaub	@tabithagold
91. Terah Lyons	@terahlyons
92. Tess Posner	@tessposner
93. Timnit Gebru	@timnitgebru
94. Tulsee Doshi	NA
95. Valentine Goddard	@vavacolor
96. Vicky Charisi	@charisivicky
97. Vidushi Marda	@vidushimarda
98. Virginia Dignum	@vdignum
99. Virginia Eubanks	@poptechworks
100. Vivienne Ming	@neuraltheory

“Robots are coming for women’s jobs, and we have to be clear about the granular impacts in organisations. One of the first steps we need to take is combatting this bias.”

~ Prof. Gina Neff @ginasue

Frequently Asked Questions (FAQs)

How was the 100 Brilliant Women in AI Ethics (WAIE) list created?

- We invited nominations from the global community and accepted all entries that were submitted by October 15, 2019.
- To reduce the bias of “known knowns” and conflicts of interest, we implemented a multi-layer vetting process.
- In the first round of vetting, we filtered out anyone who was more focused on promoting hype about AI and for whom ethics of AI was an afterthought, as determined by their published content and views shared publicly.
- The second round of vetting was done by our **Women in AI Ethics council**, which includes multidisciplinary experts in the AI Ethics space who vetted their peers.
- Last and final round of reviews was by our **Advisory Committee**, folks who have a stellar track record in tech and for supporting diversity. Note: The criteria for serving on this committee is that none of them could be considered for the 100 list.

What criteria did you use to vet the AI Ethics list?

List of criteria is below and in addition we encouraged everyone to look outside their immediate network and include new voices in this list.

- Self-identifies as a woman (we are emphatically trans-inclusive)
- Primary focus is on the ethics of AI, responsible AI, or ethical AI
- Expertise in AI ethics as demonstrated by published research/body of work and/or experience
- Shows commitment to inclusion and diversity in their personal or professional capacity as an individual or as part of a larger organization
- Note: Priority will be given to women who are part of an underrepresented groups ex: LGBTQ+, Latinx, Black, others

Why isn't my name on the list?

The list is based on nominations we received from the community and we highly encourage self-nominations. This list is a testament to the many talented women in this space and we would like to recognize new voices in this space every year.

Why wasn't this (famous) person included on the list?

We want to overcome bias of “known knowns” and find fresh perspectives outside of the echo chambers of tech. We proactively seek to provide a platform for women from marginalized groups who are typically overlooked in this space. We also prioritized women who demonstrated a commitment to supporting diversity and inclusion. That said, it was a tough decision. There were some that we liked personally who didn't make the final cut, so we certainly feel your angst.

The list seems skewed towards western countries. What about AI Ethics in non-western nations?

We are actively trying to recruit chapter leaders in the underrepresented regions and their mission will be to encourage/nominate women from their regional communities. For 2020, we have prioritized Africa, Asia, and Australia. Please email us diversityinai@gmail.com if you would like to help address gaps in these regions.

How is this initiative different from other organizations like Women in AI?

Women in AI Ethics initiative sits at the intersection of diversity and ethics. We believe that any (AI) technology that doesn't include women and marginalized communities is inherently unethical.

Our mission is not to compete but rather to recognize and empower women working specifically on the ethics of AI. We also amplify the work of other amazing diversity-and ethics-oriented organizations. We coordinate and collaborate regularly with other diversity-oriented organization and have provided a list of organizations doing great work in this space under "Resources". We have also set up a global diversity and ethics events calendar so you can get visibility into all the events in one place.

Our philosophy is simple – to build a more inclusive and ethical world, we all need to walk the walk and include more voices instead of building new walled gardens and echo chambers.

How can I join the WAIE council or advisory committee?

We are still a very nascent organization and have been very intentional in whom we invite in order to keep the group manageable and yet diverse. Each member is selected because of their unique perspective and background. That said, the term to serve on WAIE council is 6 months, with some exceptions, so please don't give up.

How can I get involved?

There are many opportunities to get involved. Please [nominate](#) your peers and other amazing women in this space. Email us at DiversityinAI@gmail.com if you organize events on diversity + ethics of AI and we'll give you access to our global calendar and/or if you're interested in becoming a regional chapter leader <link>.

How can I share my ideas and feedback?

We would love to hear from you! Feel free to email us any time at DiversityinAI@gmail.com We have a small but mighty team so we appreciate your patience if we are not able to get back to you promptly.

"When using AI to deliver healthcare we must ask ourselves: do we really want to replicate today's injustices where the pain and suffering of the majority is dismissed? The pain divide is real. Those who are not from a privileged class are disbelieved and under-treated. Technologists must address it."

~ Claire Woodcock @clairewoodcock

Resources

WAIE resources

- Online directory <https://lighthouse3.com/diversityinai>
- AI Ethics Newsletter <https://lighthouse3.com/newsletter/>
- Slack channel for Diversity/Women in AI Ethics <https://diversityinai.slack.com/>
- Diversity/Women in AI Ethics common calendar <https://tinyurl.com/WAIECalendar>

Diversity and AI Ethics Organizations ([Complete list is online](#))

- [AI4ALL](#)
- [Black Girls Code](#)
- [Black in AI](#)
- [Code Nation](#)
- [Deep Learning Indaba](#)
- [Data Science Africa](#)
- [Hack the Hood](#)
- [Latinx in AI](#)
- [Partnership on AI](#)
- [Queer in AI](#)
- [SF MLUX](#)
- [Techqueria](#)
- [Women in Machine Learning](#)
- [Women in Machine Learning and Data Science](#)

“Algorithms don't differentiate between good or bad. You can't rely on them for decision making processes. Which is why we need mechanisms to help prevent "bad actors", built from the very beginning. My concern is that we don't prevent enough. We just "fix" once damage is done. Aren't we just late to the party then, if we can't grasp the dangers and faults in our products?”

~ Roxana Nasoi @roxanasoi

Books on AI Ethics

Add these great books to your holiday gift + reading lists and support indie bookstores while you are at it! <https://indiebound.org>

#WomeninAI #AIEthics #BookChat @MiaD



- Algorithms of Oppression @safiyanoble
- Automating Inequality @PopTechWorks
- Technically Wrong @sara_ann_marie
- Weapons of Math Destruction @mathbabedotorg
- Race After Technology @ruha9
- Culture and Human-Robot Interaction @jgcarpenter
- Technology and the Virtue @ShannonVallor
- Artificial Unintelligence @merbroussard
- Privacy in Context @HNissenbaum
- The Age of Surveillance Capitalism @shoshanazuboff
- Responsible Artificial Intelligence @virginadignum
- Hello World @HannahFry
- Programmed Inequality @histoftech
- Behind the Screen @Ubiquity75
- Invisible Women @CCriadoPerez