

MICKT Consulting

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
Tyler Piesik	2027	Industrial Engineering
Ian Bell	2027	Environmental Resource Management
Krish Gupta	2027	Mechanical Engineering
Christian Smith	2027	Mechanical Engineering
Maria Rangwala	2026	Aerospace Engineering

Advisor(s): David Cubanski

Topic Title: Developing Unbiased AI

Audience: Google Developers

Sustainable Development Goal

SDG #10: Reduced Inequality within and between countries.

SDG #16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Executive Summary

Artificial Intelligence (AI) has evolved rapidly in recent years, creating excitement and debate about the potential to revolutionize industries. AI is already emerging in Big Data, robotics, and IoT. AI also has the potential to improve medical diagnosis, identify potential national security threats, solve crime, compose music & images, as well as countless other tasks. With the rise of ChatGPT and Bard, Generative AI is now freely accessible to the masses allowing for individuals, businesses and organizations to leverage the capabilities to simplify everyday tasks. However, AI is fueled by data and if the data reflects any human bias or undesirable correlations, the AI system can make decisions that disadvantage certain groups. For example, an algorithm used to identify the need for Medicare assigned low risk scores to black patients simply because they spent less on healthcare in the past. Similarly, A British medical school was found guilty of discrimination after a computer program being utilized to invite applicants for interviews was biased against women and those with non-European names.

Addressing bias must be approached carefully because if done incorrectly it can have negative implications, as seen recently with the Gemini model. To reduce bias at Google employees must train the models to combat bias and inequality in the real world without creating any new bias's. Developers should continuously evaluate results so that bias is identified before it becomes publicly accessible. User feedback should also be strongly considered by developers to yield results consumers feel comfortable with. Identifying bias will also look different depending on the companies' intentions; if an A.I is used to solve crime it will need to be trained so that it doesn't use misleading correlations to come to conclusions. In other cases, bias must be identified to fight inequality. In this case the type of feedback will mostly depend on the company's own goals and values.