How Google Cloud thinks about (Responsible Gen)AI

Adelina Cooke, Global AI Public Policy lead
adelinacooke@google.com
Google is the pioneer in (Responsible) AI

2015
Google DeepMind
AlphaGo defeats Go champion

2016
Google’s DeepMind helps detect eye disease

2017
Google’s groundbreaking large language model, BERT

2018
Text-to-Text Transformer
Transformer LLM 10B P Model Open Sourced

2019
Google LaMDA Model Trained to converse

2020
AlphaFold predicts structures of all known proteins

2022
A conversational AI Service powered by LaMDA.

2023
BARD

Responsibility Overview:
- Built & Tested for Safety
- Upholds high scientific standards
- Privacy in design
- Accountable to People
- Socially Beneficial
- Avoid creating unfair bias

3,000 Researchers
7,000 Publications
Consumers & enterprises have different needs....

Consumers
- Plan a 3 day trip to Patagonia
- Create a valentine poem.
- How to make GF pancakes?
- A picture of a panda playing yahtzee
- I want to write a novel. How do I get started?
- Create a jazz song for a bday card

Bard + MakerSuite

Enterprises
- How do we control our data
- How do we deal with fraud & security
- We need to be accurate & explainable
- How will we control costs?
- How do we integrate our existing data & applications

Vertex AI + Duet AI

Google Cloud
Google’s research drives a family of models
That power experiences for all users

- **Foundation Model Families**
  - PaLM 2
    - Codey
    - Imagen
  - Across many modalities: Text, Code, Image, Dialogue, Multimodal.....

- **Consumer / Hobbyist Experiences**
  - Bard
  - MakerSuite

- **Enterprise Experiences**
  - Duet AI for Google Workspace
  - In-console Code & Chat Assistance
  - Security AI Workbench

- **AI Builder Experiences**
  - Vertex AI
    - Med-PaLM 2
    - Sec-PaLM

- **Models for AI Builders**
  - Example: PALM API’s Model: text-bison-001
  - Animal indicates size:
    - Unicorn
    - Bison
    - Otter
    - Gecko
  - Numbers indicate version:
    - 001 -> 002
    - Signifies refresh
Applying AI responsibly - policy considerations for a successful risk management
Enterprise readiness is at the core of our approach to Generative AI

Data governance and privacy

Security and compliance support

Reliability and sustainability

Responsible AI
Cloud Governance Processes

1. Data Stewardship
   - GCP AI/ML Data Use Commitment
   - Data Stewardship Assessments & Reviews

2. Responsible AI
   - Customer AI Deal & Product Development Reviews
   - Fairness Testing

3. Privacy & Security
   - ML Privacy Commitment
   - Security & Privacy Policies
You control your data, not Google

We ensure responsible use of data for Cloud AI/ML with these commitments to customers:

By default, we do not use customer data to train our models, in accordance with [GCP Terms](https://cloud.google.com/terms) and [Cloud Data Processing Addendum](https://cloud.google.com/data-processing-addendum). Your customer data is only processed according to your instructions.

You benefit from our privacy experience and commitments to transparency, compliance with regulations such as the GDPR, and privacy best-practices.

Our extensive data governance & security controls provide you with confidence in the protection of your data from other customers, users, attackers, and unauthorized access by Google employees.
Your Data, Your Terms

Your OnPrem or Alternative Cloud

Your Google Cloud Perimeter

Vertex AI Search and Conversation
- Conversation AI
- Enterprise search

Vertex AI
- Adapter Layers

Google Cloud Central Hosting
- Large Foundation Model (Frozen)

Chatbot, API, etc.
Internet/Intranet

Your Users
- Your Content
- Your Data
- Your Inference
- Your Security
Generative AI comes with its own set of unique challenges.

At Google, we are integrating AI into our products boldly and with a deep sense of responsibility and highest standards of information integrity with our AI principles.

Google Cloud’s approach to Responsible AI

**Education, research & tools**
- Online training courses, guidebooks, research papers, product documentation, RAI best practices, Tensorflow Responsible AI toolkit

**Product & use case reviews**
- Customer AI Use case & Product Development Reviews, Fairness Testing

**Responsible AI offerings**
- ML Metadata, Model Registry, Model Monitoring, Technical Safeguards, Content Moderation API, Recitation Checker, and Unfair Bias Evaluation Tooling
How do we become not just an AI first company but a **Responsible AI first company**?

**Google’s AI Principles: A timeline**

- **Summer 2017**: How do we become not just an AI first company but a **Responsible AI first company**?
- **June 2018**: **AI Principles launched**
- **2018 →**: **A daily commitment**: Principles into Practice
<table>
<thead>
<tr>
<th>Google’s AI Principles</th>
<th>Applications we will not pursue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. be socially beneficial</td>
<td>1. likely to cause overall harm</td>
</tr>
<tr>
<td>2. avoid creating or reinforcing unfair bias</td>
<td>2. weapons or those that direct injury</td>
</tr>
<tr>
<td>3. be built and tested for safety</td>
<td>3. surveillance violating internationally accepted norms</td>
</tr>
<tr>
<td>4. be accountable to people</td>
<td>4. purpose contravenes international law and human rights</td>
</tr>
<tr>
<td>5. incorporate privacy design principles</td>
<td></td>
</tr>
<tr>
<td>6. uphold high standards of scientific excellence</td>
<td></td>
</tr>
<tr>
<td>7. be made available for uses that accord with these principles</td>
<td></td>
</tr>
</tbody>
</table>
Google AI Principles Structures and Processes

- **Escalation (If needed)**
- **Review processes**
- **Dedicated functions in product**

**Advanced Technology Review Council (ATRC)**

- **Health Ethics Committee**
- **Central Responsible Innovation Review Committee**
- **Product Area AI Principles Review Committees**
- **Privacy & Data Protection Office Steering Committee**

**Dedicated functions in product**

- **Trust & Safety**
- **User Experience**
- **Product Inclusion**
- **DEI Councils**
- **Privacy Working Groups**

* This is not an exhaustive list, and does not include PA-specific teams and functions
** More info in our [2021 AI Principles Progress Update](https://ai.google/responsibilities) and at [ai.google/responsibilities](https://ai.google/responsibilities)
Cloud AI Principles Reviews

- Customer AI deal review
- Cloud AI product development review
Customer AI Deal Review

Sales Deal Submission

Preliminary Review

Review Deals

Discuss & Align
We support risk-based, proportionate AI regulation

AI is too important not to regulate.

- Google CEO Sundar Pichai, Financial Times, Jan. 2020
Google Cloud’s Approach to Regulations

The Cloud GAPP team works closely with internal teams to ensure we are ahead of the curve to support our customers.
What is a risk-based approach?
Applying AI innovation
Pursuing a **Responsible** Generative AI transformation

1. Identify and prioritize use cases
   - Evaluate business needs along with Generative and traditional AI capabilities.

2. Data first strategy
   - Bring together disjointed data sets and strong governance to lay a solid AI foundation.

3. Organizational readiness
   - Assess your organization’s current status along with costs and benefits of AI solutions.

4. Test and scale
   - Not all AI is built equal. POC often and fail fast to identify what works for your business.
Increasing Employee and Operational Efficiency
Hi, I am trying find out whether this coconut sunscreen will leave an odor in warm climates?

It will not leave an odor unless the temperature is above 90 degrees F.

I’m not sure what the average temperature will be when I go to Aruba in 2 weeks.

Let me check for you. OK, the average temperature does not get above 80 degrees F at that time of year.

Ingest company catalog data, consumer service training, employee guidelines and processes to equip chatbots to answer complex consumer and employee questions.

Allow for escalation in areas of risk (e.g. product safety or employee security.)

Example: A consumer can find out how a skincare care product will perform when she is traveling to a new country interacting with the company’s Conversational AI.
Increasing Employee and Operational Efficiency

Employee Knowledge Search and Productivity

Quickly find the most relevant content via natural language search to **reduce hours of manual work**

**Example**: A global HR leader wants to find out the policy in each region on unused vacation days.

Summarized Vacation Policy Findings:

- Our company has varying vacation policies across our six regions.
- Allowed vacation days span from 15 per year to 30 per year depending on local laws and regulations.
- In the US, employees use up 75% of their vacation days on average. In EMEA this average is slightly higher at 80%. In APAC………………………………………..

Hours spent navigating decades-worth of archives
Duet AI for Google Workspace Enterprise

Helps you write 📥 in Gmail and Docs

Duet AI works behind the scenes to help you write — whether it’s refining existing work or helping you get started

Helps you visualize 📊 in Slides 🎨

With Duet AI, you can easily create images for presentations and meetings from a simple prompt

Helps you organize 📚 in Sheets 📆

Duet AI is here to help you organize, classify and analyze your data faster than ever before

Helps you connect 📱 in Meet 📲

Duet AI helps you look and sound your best on video calls so you can focus on the conversation

Help me write an engaging headline.
Increasing Employee and Operational Efficiency

Duet AI: help write emails
Increasing Employee and Operational Efficiency

Duet AI across Workspace: Sales Performance
Increasing Employee and Operational Efficiency

Duet AI in Meet: **Call summaries and action items**
Increasing Employee and Operational Efficiency

Duet AI in Docs: Job Postings
Drive cost and operational efficiency
Drive cost and operational efficiency

Document Search & Synthesis

Improve the ability to understand large document sets to help identify, summarize, and explain relationships to other documents.

Example: Using Gen AI, a relationship manager could quickly identify relevant contract clauses that need to be updated and then generate tailored communications to notify the customer of the change.

Existing Contracts

“Flag all customers with LIBOR in their contract and automatically send them updated T&Cs that alert them to the replacement of LIBOR”

[Dear customer]
We are writing to inform you about an important change to your contract. The London Interbank Offered Rate (LIBOR) is a benchmark interest rate that is used to price many financial products, including loans, mortgages, and derivatives. Your contract currently refers to LIBOR. As a result of the LIBOR phase-out, we are updating your contract to reference a new benchmark interest rate, the Secured Overnight Financing Rate (SOFR).
Drive cost and operational efficiency

Vertex AI Search & Conversation
Thank you!