

The **Data Layer** represents systems where raw data is stored, processed, and converted into datasets for model training and fine-tuning

Problems

- AI initiatives lack access to the most valuable enterprise data due to security and privacy concerns, hindering potential breakthroughs.
- Sensitive information movements risk exposing data to malicious actors and compromising your security posture.

Solved with Protopia

- Access to your most valuable data through Stained Glass, ensuring no raw data leaves your trusted environment.
- Transforms sensitive data into randomized representations, unlocking AI/LLM utility without exposing or leaking original data.

The **Model Layer** represents systems where data, training code and base models are processed in training and fine-tuning runs and deployed to serve user requests.

Problems

- Redacted or synthetic data lowers model accuracy, hampering AI initiatives.
- Efficacy hindered by limited access to data in hybrid execution environments, which are necessary due to GPU/compute constraints or data sovereignty requirements.

Solved with Protopia

- Securely transform and utilize more of your sensitive data for greater impact.
- Enables data availability across hybrid environments through directly usable, irreversible transformations, eliminating the need to transmit, decrypt, or locally copy actual data outside your trusted environment.

The **Application Layer** represent systems used to power end user applications like chatbots, virtual assistants, as well as technology components for Retrieval Augmented Generation (RAG), including vector databases

Problems

- Inference traffic interception risks exposing sensitive or personally identifiable information (PII) to hackers.
- Malicious actors can compromise data, user, or model security by stealing prompts to extract sensitive details.

Solved with Protopia

- Enhances the security of prompts to model endpoints, ensuring consistent protection of sensitive user data.
- Strengthens the protection of prompts and sensitive data in Retrieval Augmented Generation (RAG) systems for enterprises.

