MisinformLens – AI-Powered Tool for Combating Misinformation

■ Project Overview

MisinformLens is an AI-powered tool built on Google Cloud + Generative AI that detects potential misinformation and educates users on identifying trustworthy content. The tool goes beyond fact-checking — it analyzes manipulation techniques, highlights credibility issues, and builds digital literacy.

■ Objectives

1. Detect potential misinformation across text, images, or links.
2. Provide credibility scores and reasoning.
3. Educate users on common misinformation patterns.
4. Foster a critical, informed digital citizenry in India.

■■ Tech Stack

- Frontend: React.js (Material UI / TailwindCSS)
- Backend: Node.js + Express
- Database: Firestore / MongoDB
- AI/ML: Google Cloud Vertex AI, Perspective API, Hugging Face models
- Deployment: Google Cloud Run / Firebase Hosting
- Other Tools: Docker, GitHub Actions (CI/CD)

■ Folder Structure (inside genAI/)

genAI/
■■■ README.md # Project workflow + setup instructions
■■■ frontend/ # React UI
■ ■■■ src/
■ ■ ■■■ components/ # UI components
■ ■ ■■■ pages/ # Home, Results, Education Hub
■ ■ ■■■ services/ # API calls to backend
■ ■ ■■■ App.js
■ ■■■ package.json
■
■■■ backend/ # Node.js + Express server
■ ■■■ src/
■ ■ ■■■ routes/ # API endpoints
■ ■ ■■■ controllers/ # Logic for misinformation detection
■ ■ ■■■ models/ # Database schemas
■ ■ ■■■ utils/ # Helper functions
■ ■■■ package.json
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■■■ ai_models/ # AI-related code
■ ■■■ factcheck_model/ # Hugging Face / fine-tuned models
■ ■■■ credibility_model/ # Vertex AI integrations
■ ■■■ toxicity_model/ # Bias & harmful content detection

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■■■ docs/ # Documentation
■ ■■■ MisinformLens_Workflow.md
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■■■ config/ # Google Cloud, Firebase, API keys (gitignored)
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■■■ scripts/ # Deployment & automation scripts
■
■■■ .env.example # Environment variables template

■ Core Features

1. Content Input: User submits news text, link, or image.
2. AI Analysis Pipeline: Claim detection → Fact-checking API → Credibility scoring.
- Bias & manipulative language detection.
- Cross-check with trusted news sources.
3. Results Dashboard: Traffic-light style scoring (Green, Yellow, Red).
4. Education Hub: Tutorials + quizzes on misinformation patterns.

■ Prototype Scope (Hackathon-Ready)

- Simple React frontend (text input + results page).
- Backend mock pipeline using Google Cloud APIs + Hugging Face.
- Basic credibility scoring model.
- Preloaded educational modules (PDF/Markdown).

■ Next Steps

1. Build minimal frontend (input + results).
2. Connect backend with Vertex AI + Hugging Face APIs.
3. Implement credibility scoring logic.
4. Deploy prototype to Firebase/Cloud Run.
5. Add education hub with static content.

■ References

- Google Cloud Vertex AI Docs
- Hugging Face Model Hub (Fake News Detection, Claim Verification)
- Perspective API (Toxicity & Bias Analysis)