Gen AI Assignment 1

Mohamed Emary

March 15, 2025

1 Task 1

Compare AI Models

1.1 1. AI Models for Text-Based Tasks

Model	Description
GPT-4	Best for chatbots, content, and coding assistance.
Claude	Strong for long documents and safe AI interactions.
Gemini	Google-integrated, great for search and analytics.
Mistral	Open-source, customizable for AI applications.

1.2 2. AI Coding Assistants

Assistant	Description
GitHub Copilot	Real-time code suggestions, best for VS Code users.
Codeium	Free, fast autocomplete, good for beginners.
Tabnine	Privacy-focused, ideal for enterprise coding.

1.3 3. AI Image Generation

Tool	Description
$\mathrm{DALL}\cdot\mathrm{E}$	High-quality images, OpenAI ecosystem.
Stable Diffusion	Open-source, customizable.
MidJourney	Best for artistic visuals.

1.4 4. AI Automation Tools

Tool	Description
LangChain	Builds AI workflows and chatbots.
AutoGPT	Automates multi-step AI tasks.
CrewAI	Multi-agent AI automation.

1.5 5. AI Data Analysis Tools

Tool	Description
DataRobot	Automated machine learning, easy to use.
H2O.ai	Open-source, scalable machine learning.
RapidMiner	Data science platform, good for beginners.

1.6 6. AI Voice Assistants

Assistant	Description
Amazon Alexa	Widely used, integrates with many devices.
Google Assistant	Best for Android users, strong search capabilities.
Apple Siri	Best for Apple ecosystem, privacy-focused.

1.7 7. Conclusion

Category	Best Options
Best for Text	GPT-4 / Claude
Best Coding Assistant	Copilot (paid, but has free plan), Codeium (free)
Best Image Generation	MidJourney (artistic), Stable Diffusion (customizable)
Best Automation	LangChain (chatbots), AutoGPT (task automation)
Best Data Analysis	DataRobot (easy to use), H2O.ai (scalable)
Best Voice Assistant	Amazon Alexa (widely used), Google Assistant (strong search)