Table of Contents

Document Control

Title	Author	Instructor's Name	Course Title	Date of Submission
GAIA	Gagan Narra Chowdary Akshra Reddy Poornarakesh Anagani	Guan Yue Hong, Western Michigan University	CS-6030-120 Generative AI	10/20/2025

GAIA-Generative AI for Automated Assessment in Education (AWS Cloud Deployment)

Development Team:

Gagan Nara Chowdary
Akshara Reddy
Poornarakesh Anagani

Project Category

Application Project

Project Choice

GAIA : Generative AI for Automated Assessment in Education (AWS Cloud Deployment)

Project Overview

GAIA is a cloud-based AI application that automates grading and feedback for student assignments. The platform streamlines assessment by enabling teachers to upload assignments and rubrics; students can submit answers and receive instant, personalized feedback. Using generative AI, GAIA improves grading speed, accuracy, and fairness—all hosted-on AWS for scalability and reliability.

Project Objective

- Build a demo-ready web system to automate grading and feedback using AI
- Reduce grading workload and turnaround time for teachers
- Provide consistent, unbiased feedback to students
- Deliver analytics dashboards for educators

Motivation

This project is motivated by the need to address educator workload, delayed feedback cycles, and biases in assessment. By integrating generative AI, GAIA promotes equitable, efficient, and data-driven educational processes.

Conclusion

GAIA demonstrates the practical value of combining generative AI and cloud services to modernize educational assessment. The project delivers an MVP hosted on AWS within a month, focusing on core features and future scalability.

Tools & TechStack

S.no	Category	Purpose & Components
1	Cloud Environment	AWS Lambda, API Gateway, S3, RDS, Cognito, CloudWatch
2	Backend	Python, Fast API, Boto3, OpenAI SDK
3	Frontend	React.js, Material-UI, AWS Amplify UI
4	DevOps/CI/CD	GitHub, GitHub Actions or Jenkins AWS SAM
5	Monitoring	CloudWatch