**AI-Driven Interview Simulation Platform**

**Abstract:** The **AI-Driven Interview Simulation Platform** is a Flask-based web application designed to provide a comprehensive interview preparation environment. Leveraging advanced AI services and AWS infrastructure, the platform offers a seamless and scalable solution for practicing interviews, with real-time transcription, translation, and coding challenges.

**Project Outline and Features:**

1. **Dynamic Question Bank**:
   * Personalized interview questions based on user roles, experience, and industry trends.
   * Covers behavioral, technical, and scenario-based interview formats.
2. **Speech-to-Text and Translation**:
   * Powered by **AssemblyAI** and **ElevenLabs**, offering transcription and multilingual translation capabilities.
   * Feedback on clarity, tone, and language proficiency.
3. **Integrated Coding Challenges**:
   * Built-in editor with real-time execution.
   * Automated code quality evaluation, logic testing, and performance optimization insights.
4. **Real-Time Feedback and Scoring**:
   * Provides comprehensive metrics, highlighting content relevance, communication style, and technical skills.
5. **Cloud Storage and Security**:
   * User resumes and interview recordings stored securely on **AWS S3**.
   * Data security and compliance ensured with AWS best practices.
6. **Authentication and User Profiles**:
   * User management through **AWS Cognito** for secure authentication and authorization.
   * User data stored in **AWS Redshift**, enabling efficient querying and analytics.
7. **Scalable Deployment**:
   * Hosted on **AWS EC2**, ensuring reliability and scalability for global access.

**Technology Stack:**

* **Backend:** Flask for server-side logic and APIs.
* **Frontend:** HTML, CSS, and JavaScript with Flask templating.
* **AI Services:** AssemblyAI and ElevenLabs for transcription and translation.
* **AWS Services:**
  + **Cognito:** Secure user authentication.
  + **EC2:** Application hosting and deployment.
  + **Redshift:** Storing and managing user information.
  + **S3:** Secure file storage for resumes and recordings.

**Benefits:**

* Provides a user-friendly, secure, and scalable interview preparation tool.
* Utilizes cutting-edge AI technologies for realistic simulation.
* Streamlines interview preparation with tailored feedback and analysis.