COIA
开放智算产业联盟

Innovation Challenge on Gen-AI Applications for Enterprise Scenarios Using OPEA

Organizers:

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Competition Experience in 2024

Event: Competition for AIGC Youth Employment and Entrepreneurship Promotion Initiative

Organizers: Xinhua News Agency, China's Ministry of Human Resources and Social Security

2.6 million students

178 colleges & universities

2025 → AI for Good → Expand globally

Task

Participants are required to design, implement, and deliver a practical generative AI application using the OPEA platform. The application should address a real enterprise use case by leveraging OPEA's modular architecture and evaluation methodology. The task includes the following key components:

1. Design and Build a Domain-Specific Generative AI Application:
Use OPEA's modular components—such as LLMs, embedding models, retrieval modules, prompt engines, and orchestration workflows—to construct a solution tailored for enterprise needs. Participants may start from an existing OPEA blueprint or build a new pipeline using reusable components provided in the platform.

2. Select a Concrete Industry Scenario:
Choose a vertical domain with clear practical value—such as education, finance, legal services, customer support, marketing, or public health. The solution should aim to solve a real-world challenge relevant to that industry, such as automating report generation, summarizing documents, managing internal Q&A, or assisting employees with repetitive planning tasks.

3. Deliver a Working Prototype with Documentation:
Submit functioning source code along with a README and a technical report (≤ 2 pages) describing the system architecture, component usage, deployment strategy, and use case alignment. The prototype should be fully executable via OneClick setup, and demonstrate core functions of the intended application scenario.

4. Demonstrate Performance and Usability Under Realistic Constraints:
Ensure the prototype is optimized to run on typical enterprise hardware (e.g., 64GB RAM, 4-core CPU, GPU optional). Key performance metrics may include system response time, memory footprint, scalability under concurrent requests, and user experience clarity.

5. Prepare Submission Materials and Optional Presentation:
Deliverables include the complete source code repository, deployment script, concise documentation, and (optionally) a demo video (≤ 3 minutes) showcasing the solution's value and user interaction. All materials must be submitted via the github platform in accordance with the competition guidelines.

Evaluation criteria

Submissions will be evaluated by a panel of domain experts based on the following criteria. The total score consists of a base 100 points and up to 40 additional bonus points.

- **Creativity and Business Value (30 points)**
  - Originality (15 pts): Uniqueness of the solution concept, creativity in applying generative AI techniques to enterprise challenges, and novelty in scenario design.
  - Business relevance (15 pts): Practical value of the solution in its target industry, ability to solve real pain points, and potential for real-world adoption or rapid deployment in enterprise settings.
- **Technical Implementation and Optimization (40 points)**
  - Use of OPEA (20 pts): Effectiveness in leveraging OPEA's components, blueprints, and evaluation tools; integration quality and architectural alignment.
  - System efficiency (20 pts): Performance tuning, scalability, and resource utilization under typical enterprise hardware configurations (e.g., Intel CPUs, optional GPU).
- **Prototype Quality and Completeness (30 points)**
  - Code quality and usability (15 pts): Code readability, documentation, maintainability, and ease of deployment (e.g., one-click scripts).
  - Functional completeness (15 pts): The prototype demonstrates essential functionality; the solution includes all major modules aligned with the documented design. It uses appropriate models and data sources tailored to the business context, with reasonable computational efficiency.
- **Bonus Points (up to 40 points)**
  - Open-source contribution (up to 15 pts): Meaningful contributions to the OPEA project during the challenge, such as bug reports, GitHub issues, PRs, or blueprint feedback.
  - Knowledge sharing (up to 10 pts): Technical articles, blogs, or videos published on public platforms (e.g., CSDN, Medium, GitHub Discussions) summarizing key learnings from OPEA-based development.

Resources

Data Source

1. Public OPEA workloads and GitHub resources: https://opea.dev/ and https://github.com/opea-project.
2. Curated datasets from open AIGC competitions, synthetic data created for GenAI benchmarking, and publicly available datasets (e.g., HuggingFace, Kaggle).
    a. THUCTC: http://thuctc.thunlp.org/
    b. CLUE: https://www.cluebenchmarks.com/
    c. Common Crawl: https://commoncrawl.org/
    d. Kaggle: https://www.kaggle.com/datasets
    e. Dbpedia.org: https://wiki.dbpedia.org
    f. CSDB: https://www.casdc.cn/
    g. DRCD: https://paperswithcode.com/dataset/drcd

Anonymized or publicly shared student project samples from prior AIGC events.

OPEA Resources

- OPEA documentation and contributor guides (https://opea-project.github.io/latest/index.html)
- OPEA publications: https://opea-project.github.io/latest/publish/index.html

Sample Workloads

- RAG Pipeline Example (OPEA-based)
    - GitHub: https://github.com/opea-project/Enterprise-RAG
- Document-based Q&A Pipeline (LangChain)
    - LangChain GitHub: https://github.com/langchain-ai/langchain
    - Q&A Docs: https://python.langchain.com/docs/tutorials/rag/
- Chatbot Workflow Example (Semantic Kernel by Microsoft)
    - GitHub: https://github.com/microsoft/semantic-kernel

Evaluation Metrics

Latency & Throughput

- Tools: Apache Benchmark, wrk
- Monitoring: https://grafana.com/docs/grafana/latest/getting-started/

Text Generation Metrics

- BLEU (via NLTK): https://www.nltk.org/_modules/nltk/translate/bleu_score.html
- ROUGE (via Hugging Face): https://huggingface.co/spaces/evaluate-metric/rouge
- FID (Fréchet Inception Distance): Repo: https://github.com/mseitzer/pytorch-fid

GPTScore (for evaluating text with LLM)

- OpenCompass Repo: https://github.com/open-compass/opencompass
- Paper: https://arxiv.org/abs/2302.04166

More

Refer to the documents published

Thank you !