OPEA
Introduction and Opportunities to Get Involved
Dr. Malini Bhandaru, Intel

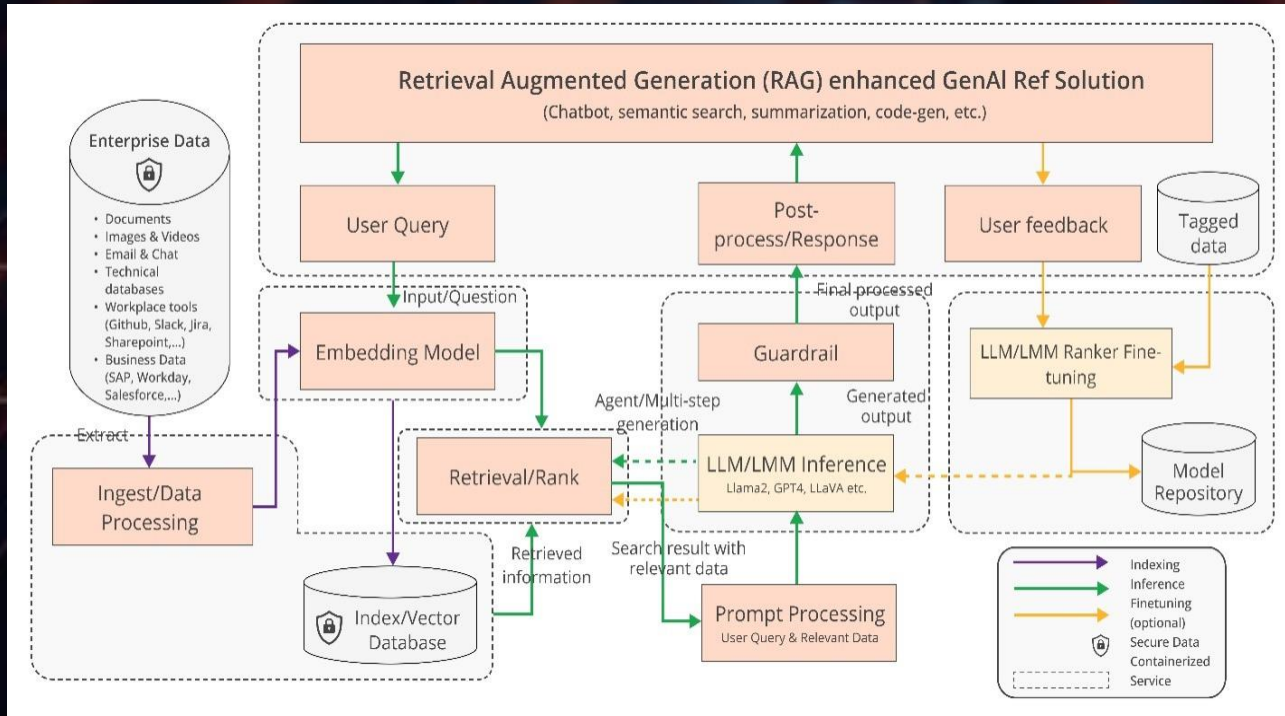*AIware Leadership Bootcamp 2024*

Dr. Malini Bhandaru

Cloud Native Architect focused on AI, confidential compute, security, and performance, engaged in open source for over a decade. She started at Intel as a server power and performance architect in 2008. Over her career, she has worked in the areas of autonomous driving, health care, and remote monitoring and management. Malini is a frequent conference speaker and has served on KubeCon and OSS program committees. She has a Ph.D. in Machine Learning and over 25 patents, is a STEM coach, DEI advocate, mentor, and avid gardener.

Agenda

- GenAI Adoption Challenges
- OPEA – A closer look
- Getting Involved

Typical GenAI Application Workflow
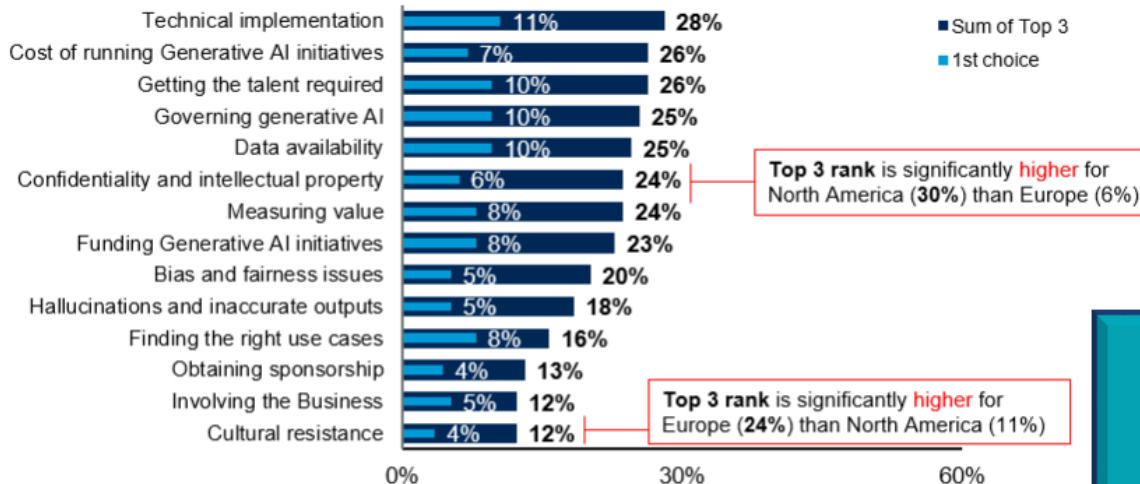

Enterprise Needs

Security

Scalability

Reliability

Low Cost

Top Challenges

Top Barriers to Implement Generative AI Initiatives
Percentage selecting barrier among top three vs. first choice

Barrier	1st choice	Sum of Top 3
Technical implementation	11%	28%
Cost of running Generative AI initiatives	7%	26%
Getting the talent required	10%	26%
Governing generative AI	10%	25%
Data availability	10%	25%
Confidentiality and intellectual property	6%	24%
Measuring value	8%	24%
Funding Generative AI initiatives	8%	23%
Bias and fairness issues	5%	20%
Hallucinations and inaccurate outputs	5%	18%
Finding the right use cases	8%	16%
Obtaining sponsorship	4%	13%
Involving the Business	5%	12%
Cultural resistance	4%	12%

■ Sum of Top 3
■ 1st choice

Top 3 rank is significantly **higher** for North America (**30%**) than Europe (6%)

Top 3 rank is significantly **higher** for Europe (**24%**) than North America (11%)

n = 114 leaders highly involved in AI, whose orgs are advanced in generative AI adoption, excluding "unsure"
G03: What are the top 3 challenges that your organization has come across when implementing generative AI initiatives?
Source: 2023 Gartner AI in the Enterprise Survey

Technical Complexity
Cost
Talent Scarcity

Solution: Open Ecosystems
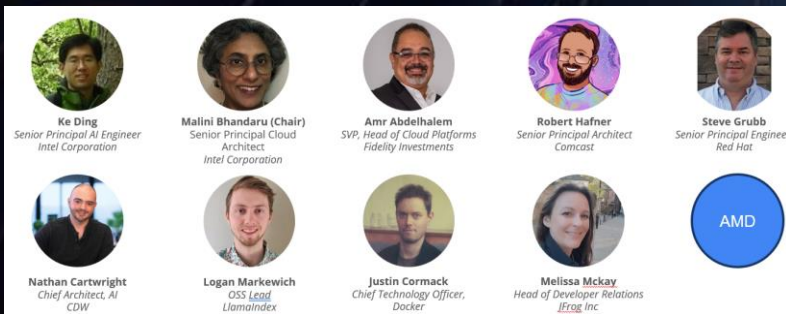
Open Platform for Enterprise GenAI (OPEA) vision

Enable enterprises to develop and deploy GenAI solutions powered by an open ecosystem that delivers on security, safety, scalability, cost efficiency, and agility.

OPEA @ Linux AI & Data Foundation

opea.dev

- **Open Source, Open Governance**
- **Cloud Native – enterprise-ready vendor-neutral containerized microservices**
- **Tested, efficient reference applications**

Ke Ding
Senior Principal AI Engineer Intel Corporation

Malini Bhandaru (Chair)
Senior Principal Cloud Architect Intel Corporation

Amr Abdelhalem
SVP, Head of Cloud Platforms Fidelity Investments

Robert Hafner
Senior Principal Architect Comcast

Steve Grubb
Senior Principal Engineer, Red Hat

Nathan Cartwright
Chief Architect, AI CDW

Logan Markewich
OSS Lead LlamaIndex

Justin Cormack
Chief Technology Officer, Docker

Melissa Mckay
Head of Developer Relations JFrog Inc

AMD

40+ Partners!

- Home
- Calendar
- TSC

Working Groups

Developer Experience

- Developer Experience Working Group Github repo with charter
- Mailing List: https://lists.lfaidata.foundation/g/OPEA-Developer-Experience

End User

- End User Working Group Github repo with charter
- Mailing List: https://lists.lfaidata.foundation/g/OPEA-End-User

Evaluation

- Evaluation Working Group Github repo with charter
- Mailing List: https://lists.lfaidata.foundation/g/OPEA-Evaluation

Community

- Community Working Group GitHub repo with charter
- Mailing List: https://lists.lfaidata.foundation/g/OPEA-Community

Research

- Research Working Group Github repo with charter
- Mailing List: https://lists.lfaidata.foundation/g/OPEA-Research

Security

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OPEA Partners

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Datastrato · Haystack by deepset · docker · Domino · dstack · Hugging Face · Infosys Navigate your next

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neo4j · pathway · prediction Guard · qdrant · Red Hat · Redis · SAP

SAS · vectara · vmware by Broadcom · wipro · Yellowbrick · zilliz · ZTE

Open Platform for Enterprise AI

Partners as of September 10

OPEA https://github.com/opea-project

GenAIComps
Containerized enterprise ready, HW-aware pipeline elements LLMs, vLLMS, vectorDBS, embedders, re-rankers, guardrails, agents ..

GenAIExamples
Reference pipelines: ChatQnA, AudioQnA, Document Summarization, Translation, Code Generation ..

GenAIInfra
Production/Enterprise Ready: scaling, service sharing, dynamic model switching, AuthN&Z, Service Mesh, Kubernetes operators/drivers
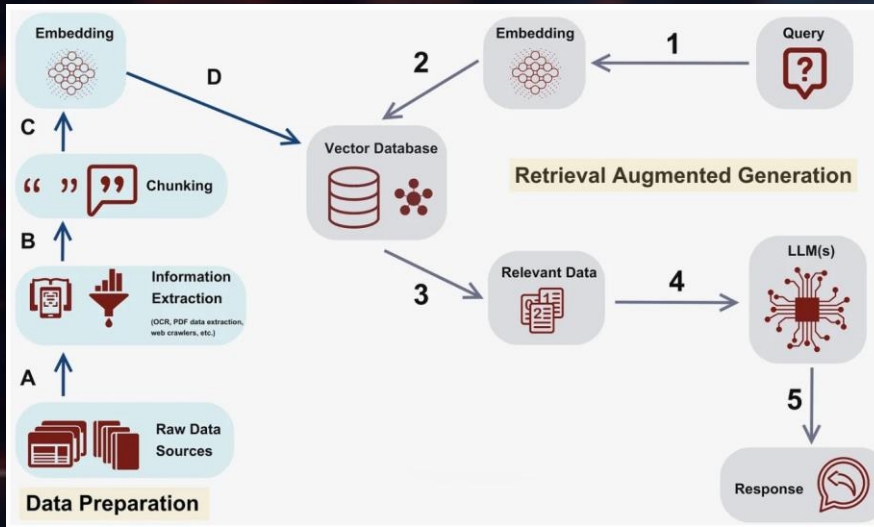
GenAIEval
Trustworthy, Features, Performance, Enterprise-ready (security, efficiency,..) Hallucination, toxicity, ragas, Llm_evaluation_harness, ..
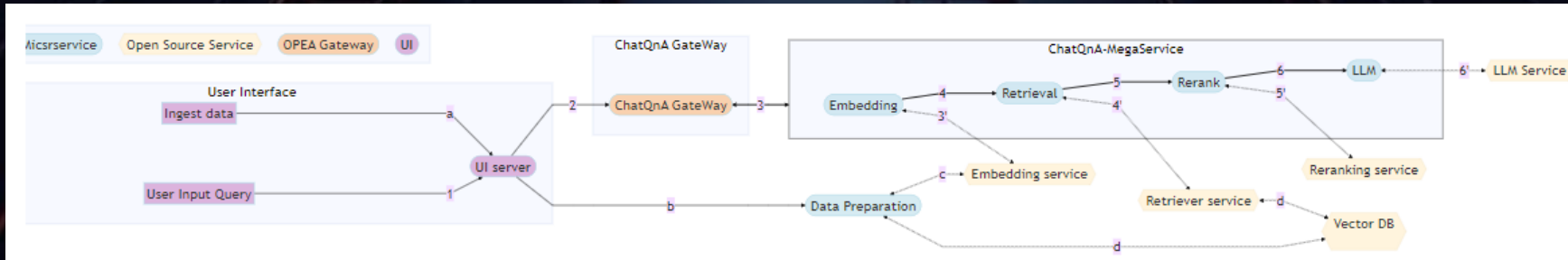
DOCS

Open Platform for Enterprise AI

ChatQnA Demo

Demo Gist
Demo Link

Just Concluded Events

October Hackathon

- Deployment scripts – Terraform, CloudFormation & Ansible Scripts
  (AWS/Azure/Google/Oracle Clouds)
  More use cases, agents
- Validate and harden OPEA samples
- Improve documentation

Good First Issue

OPEAHack

Share GenAI Nightmares

Lack of AI Governance, No realistic Business plan, Poor Data Quality,
Privacy/Security Issues, No model transparency, Wrong choice of model

Get Involved!

- Try it!   "Getting Started Guide"
  - On a cloud of your choice or your laptop with a smaller LLM
- File Issues
  - Incorrect, inadequate documentation
  - Propose a new use case, hardware
- Propose Features and code
  - File an RFC, gather input, generalize
  - Submit code
- Join Workgroups and/or Technical Steering Committee meetings
  - Open governance, a project of the people for the people!

OPEA Community Events – Open Platform for Enterprise AI (OPEA)
https://github.com/opea-project

Open Platform
for Enterprise AI

Thank You!