Solving challenges and creating value with Data-architecture

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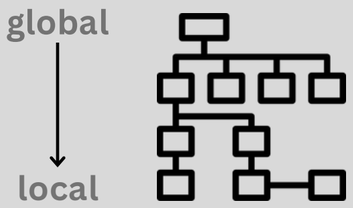
OVERVIEW

- Challenges from GNN Implementations
- AI Architecture - To build or not to build
- Enterprise Architecture and Data Strategies
- Value Creation

Three Major Challenges deter the success of GNN Implementation

Scalability

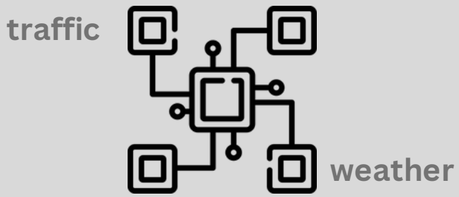
Large networks requires
Hierarchical Graph Partitioning



Need strong and fast computational infrastructure

Adaptability

Real-time adaptions
requires **connecting to live data**



Need low-latency deployment and streaming platforms

Availability

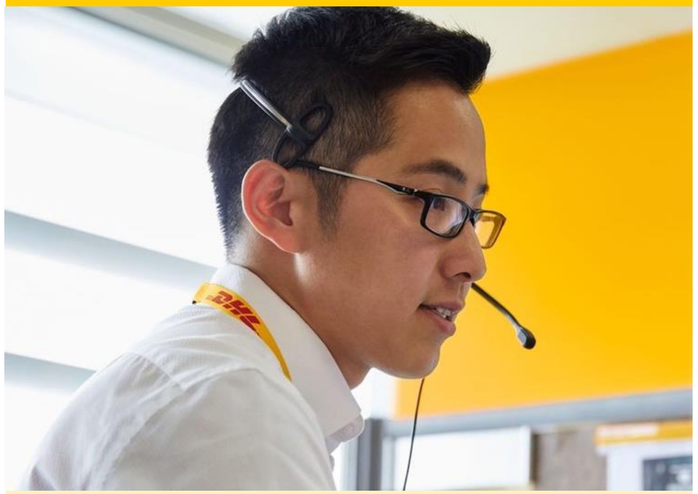
Sparse Networks requires
data creation and federated learning

Need edge computing infrastructure and advanced frameworks

Specialized AI Architectures could mitigate challenges and create value

What will you **build vs. acquire** from hyperscale cloud providers **vs. niche third parties?**

Build inhouse



- In house talent building LLM models
- Adopt AI with usage in a corporate operation solution

Hyperscale Cloud Providers

- Rent computing power or API
- Combine with existing service such as cloud storage

Niche Third Parties

- Specialized adaption such as visual
- Total solution to better combine AI with operations

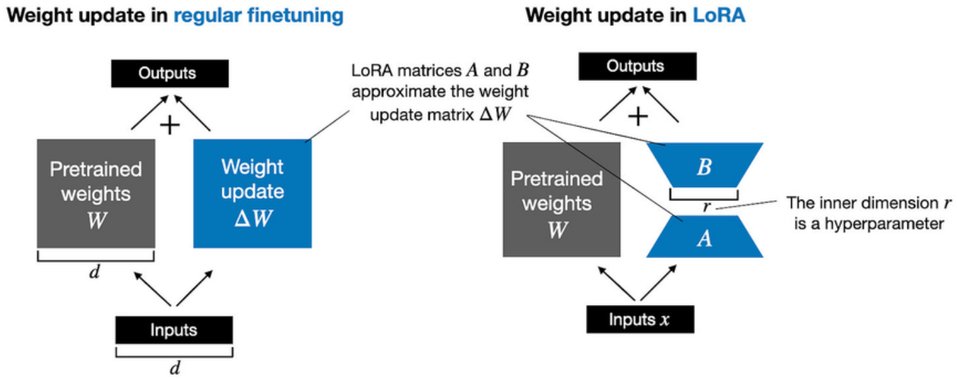
Leveraging enterprise architecture to **support the scaled development**

Compute Resources

- Deploy AI workloads on AWS to reduce costs.
- Leverage Kubernetes to optimize GPU usage.
- Invest in Monitoring infrastructure to assess drift

Optimize for AI

- Optimize ETL & real-time streaming pipelines for dynamic decision-making.
- Model quantization to reduce latency and compute load.
- LORA for faster inference on more specific predictions



Combining In-House with Third-Party Solutions to **Maximize Cost Efficiency and Competitive Edge**

Outsource

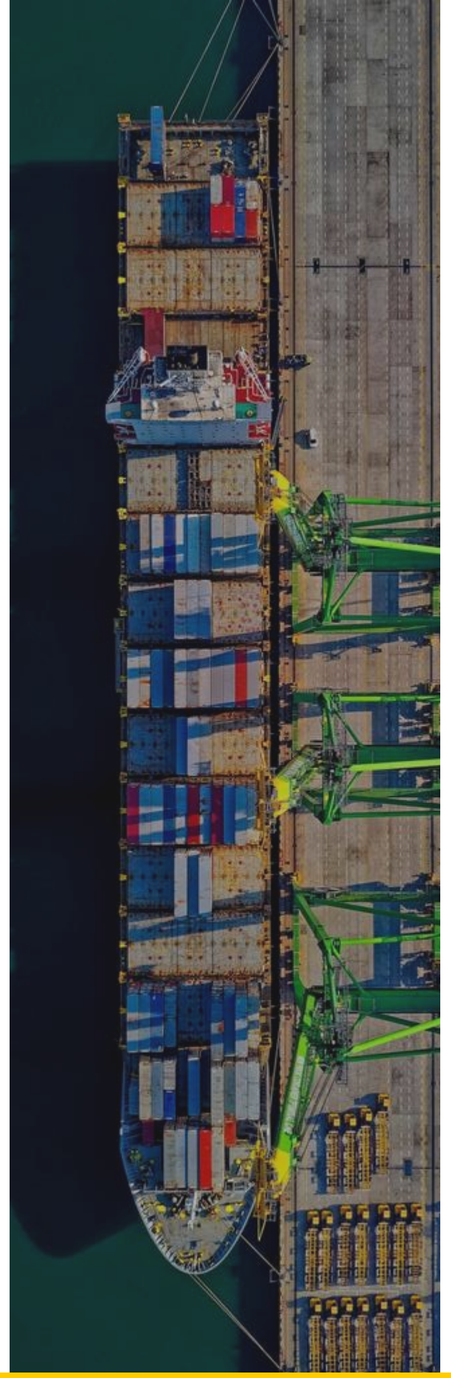
- Less upfront capital and operational expenditures
- Outside development = faster time to market

In-house

- Specialized LLM models = alignment with strategy
- Specialized Company Knowledge = competitive edge

Leveraging Enterprise Architecture to **Drive Operational Savings and Business Innovation**

Infrastructure Optimization	Resource Efficiency	Agile Operations	Continuous Innovation
Cloud Platforms: • Scalability • Flexibility • Orchestartion	**Model Quantization and Pipelines:** • Lower overhead • Faster,responsive systems	**Robust IT Framework** • Flexible and adaptable • React quickly to new opportunities	**AI-driven products and services** • Market Expansion • New industries: SaaS, E-com Management



Q&A