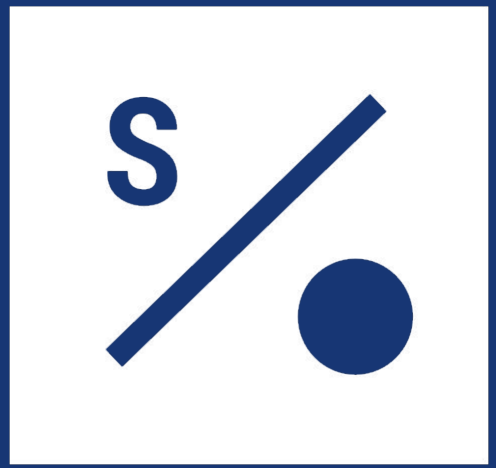


SCALEOUT

Configuration Management Tools

Max Andersson

Scaleout: The Team

Business team


DANIEL ZAKRISSON


JENS FRID


MAX ANDERSSON


MORGAN EKMEFJORD

MATTHEW CLEGG


ALEKSANDER OKONSKI

Science team


ANDREAS HELLANDER


OLA SPJUTH


OLIVER STEIN


FREDRIK WREDE


SALMAN TOOR


PRASHANT SINGH

Scaleout Offerings: Services & Technologies

Services

EXPERT SERVICES
- Consultancy
- Expert Advisory
- Lean AI support
- Advanced Data Science & Engineering support
- Advanced Cloud & DevOps support

RESEARCH & INNOVATION
- Research reports
- Insights & Demos

PROFESSIONAL TRAINING
- Lean AI program
- Cloud & DevOps program
- Data Science & Engineering program

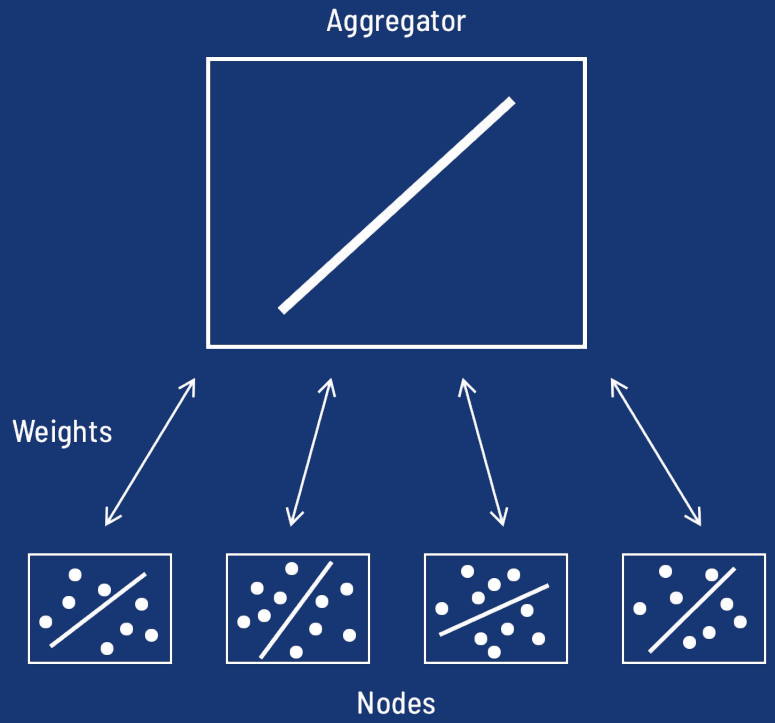
Technologies

LEAN AI STACK
An open source solution covering all stages from data ingestion and transformation, feature extraction, model definition, training and evaluation, to deployment, inference and monitoring.

SCALEOUT PLATFORM
Scaleout Platform builds on top of our Lean AI Stack and offers additional features for organizations and enterprises which require additional features, security and control.

SCALEOUT FEDERATED PLATFORM
A privacy-preserving machine learning platform enabling sustainable AI development built on Scaleout platform.

Scaleout Federated Learning



CHALLENGES WITH CENTRALIZED AI

More data means better machine learning models, but in many instances, data cannot be gathered in a central location:

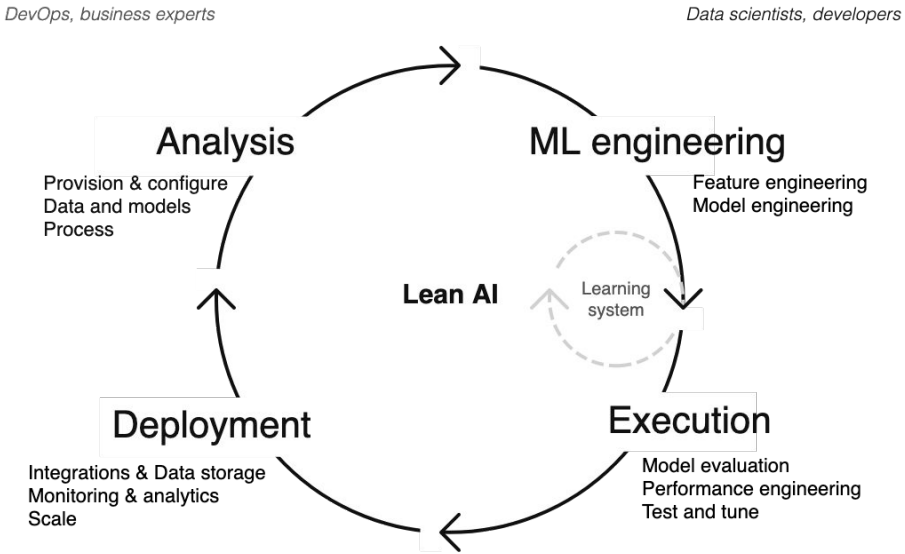
- Private/Proprietary data — Sharing valuable business data with someone else is not an option.
- Regulated data — GDPR, HIPAA, etc.
- Practical blockers — data is too big, the network connection is expensive, slow or unreliable.

FEDERATED MACHINE LEARNING

Federated Machine Learning is a distributed machine learning approach which enables training on decentralised data. Federated learning addresses the fundamental problems of centralized AI such as privacy, ownership, and locality of data. It enables:

- Data security and privacy where data never moves
- Reduced communication complexity and costs
- Powerful data network effects in industries where data cannot be transferred

Scaleout Lean AI



A structured and easy-to-follow process for taking AI to production with the goal of delivering business value quickly and efficiently.

LEAN AI STACK

The solution covers all stages from data ingestion and transformation, feature extraction, model definition, training and evaluation, to deployment, inference and monitoring.

LEAN AI PROGRAM

The program is designed to accelerate the adoption of AI by empowering the teams that take use cases to production services.

LEAN AI PILOT

A service designed specifically to help organisations succeed with their very first AI project using the Lean AI framework.

LEAN AI SUPPORT

A support concept that combines expert advisory with the possibility to get hands-on help from data scientists and data engineers.

Scaleout Offerings: Advanced Data Science & Engineering support

OVERVIEW

Scaleout Advanced Data Science & Engineering support is a support concept that combines expert advisory with the possibility to get hands-on help from data scientists and data engineers. The service is not tied to any particular platform, our experts will help with anything that falls within our core areas of expertise.

CORE AREAS OF EXPERTISE

- Data science & engineering
- Scientific computing & HPC
- Cloud native computing
- AI and machine learning

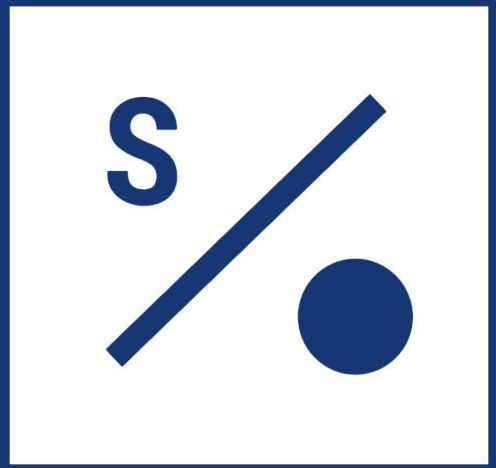
SERVICE TIERS

We offer our services by charging a fixed monthly fee to guarantee convenient access to our expert advisory service. When you need limited-scope hands-on help from our data scientists, data engineers and cloud architects, you can add developer time in 0.1 FTE chunks at a fixed, predictable cost.

TYPICAL THINGS YOU CAN GET HELP WITH:

- Continuous analytics
- Architecture of highly scalable workflows and pipelines for batch and streaming data
- Scientific data management
- Infrastructure automation, configuration management, DevOps
- Feedback on project plans
- Code reviews, troubleshooting
- Advice on data preprocessing, feature engineering, dimension reduction, etc.
- Selection of machine learning methods
- Cloud strategy, vendor-and technology assessment
- Cloud application architecture
- Cloud security
- Microservices, Kubernetes
- Private cloud architecture based on OpenStack

Learn more at: http://scaleoutsystems.com/support



SCALEOUT

Lean AI - Federated Machine Learning

Lets Begin!

Expectations

Course Structure

- 4 Weeks. Full-time
- 4 chapters
- Assignments
  - 3 Assignments
  - 3x5 Tasks
  - 1 Mini-Project
- (Quizzes)

Agenda*

- Introduction to DevOps
- The Tools
- The Components
- Architecture & advanced features
- Replication Strategies

- Keywords: CI/CD, Microservice, Volumes, Storage, Compute, Orchestration, Ansible, Puppet, Chef, Docker, Kubernetes, Images, Snapshots, SDN, Cloud Computing, Testing, Serverless, Replication, Sharding

* Subject to change

Grading

Assignment 1-3: 8 points/ each => total 24 points

Mini-Project: 4 point

Total: 28 points

Passing: 13 Points

Passing with distinction: 22 points