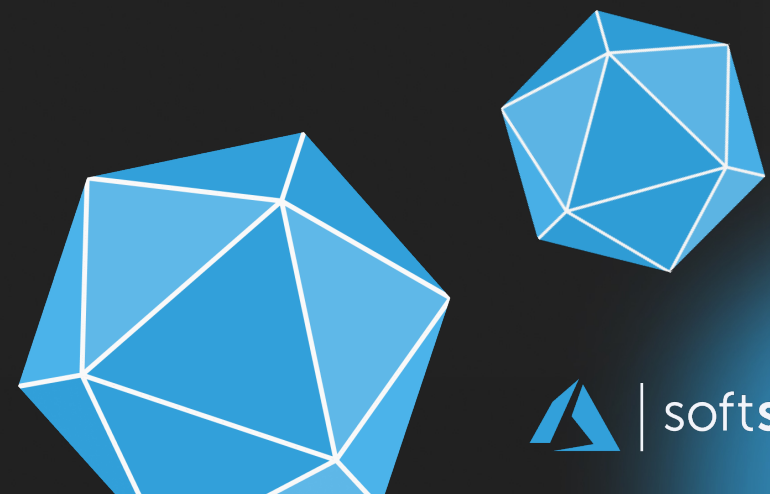


# SOFTSERVE

# MLOPS-ENABLED MODEL MIGRATION AND SCALING



# SOFTSERVE AT A GLANCE

**14,000 +**

**ASSOCIATES**

**30 YEARS**

**ACROSS  
MULTIPLE  
INDUSTRIES**

**55 & 14**

**55 OFFICES  
14 COUNTRIES**

**81 & 80**

**SOFTSERVE NPS  
GCP PSO NPS  
INDUSTRY  
BENCHMARK — 41**

**98% +**

**CLIENT  
RETENTION**

**ISO**

**STANDARD  
27001:2013  
20000-1:2021  
13485:2021**

## MULTIDISCIPLINARY TEAM

**DATA, ANALYTICS,  
AND AI/ML**

**RESEARCH AND  
DEVELOPMENT**

**CLOUD, DEVOPS,  
AND SECURITY**

**ENTERPRISE  
ARCHITECTURE**

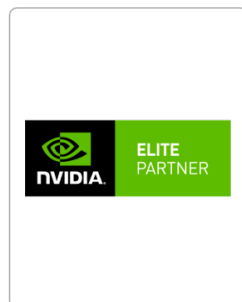
**PRODUCT  
MANAGEMENT**

**BUSINESS  
ANALYSIS**

**EXPERIENCE  
DESIGN**

**DIGITAL  
PLATFORMS**

## STRATEGIC ALLIANCES



## STATE OF THE ART AI EXPERTISE

**100+**

AI and Data  
Science experts,  
incl. PhDs

**ARTIFICIAL  
INTELLIGENCE**

- Deep Learning
- Computer Vision
- Natural Language
- Generative AI
- Explainable AI

**500+**

Experts in BI, Big  
Data, IoT, Robotics,  
VR, R&D

**ADVANCED  
ANALYTICS**

- Data Analysis
- Predictive Analytics
- Business Forecasting
- Simulation and  
Optimization

**200+**

Complex AI projects  
delivered

**MLOPS AND  
INFRASTRUCTURE**

- Enterprise AI Platform
- ML Modernization
- Workload Migration
- AI Governance and  
Operations

## CROSS-INDUSTRY SOLUTIONS

**RETAIL**

- Demand Forecasting
- Inventory and  
Assortment
- Pricing and Promotion
- Personalization
- Churn Prevention

**FINANCE**

- Claim Processing
- Personalized Banking
- Fraud Detection
- KYC Analytics
- Asset Management

**HEALTHCARE**

- Medical Imaging
- Clinical & EHR Analytics
- Patient Risk  
Assessment
- Precision Medicine
- Patient Engagement

**INDUSTRIAL**

- Visual Intelligence
- Predictive Maintenance
- Production Optimization
- Industrial Automation
- Supply Chain  
Optimization

**PUBLIC SECTOR**

- Personalized Learning
- Smart Parking
- Social Distancing
- Public Safety
- 311 Services

**CROSS-INDUSTRY**

- Document Processing
- Content Moderation
- Service Desk  
Automation
- AI for IT Operations

# SOFTSERVE AND MICROSOFT OVERVIEW

## MICROSOFT SOLUTIONS PARTNER

Partner since 2004

## MICROSOFT PRACTICE

- 2 Microsoft MVPs
- 500+ Satisfied Customers
- 1,000+ Delivered Projects
- 500+ Microsoft Certified Professionals
- 250+ Azure Certified Professionals

## PROGRAM PARTICIPATION

- ECIF Eligible
- AMM Eligible
- Azure Innovate Eligible
- CAF Ready Partner
- 20+ Marketplace Offerings



Data & AI  
Azure

Specialist  
Analytics



Digital & App Innovation  
Azure

Specialist  
Kubernetes on Azure



Infrastructure  
Azure



Security

## 4X SOLUTION AREAS

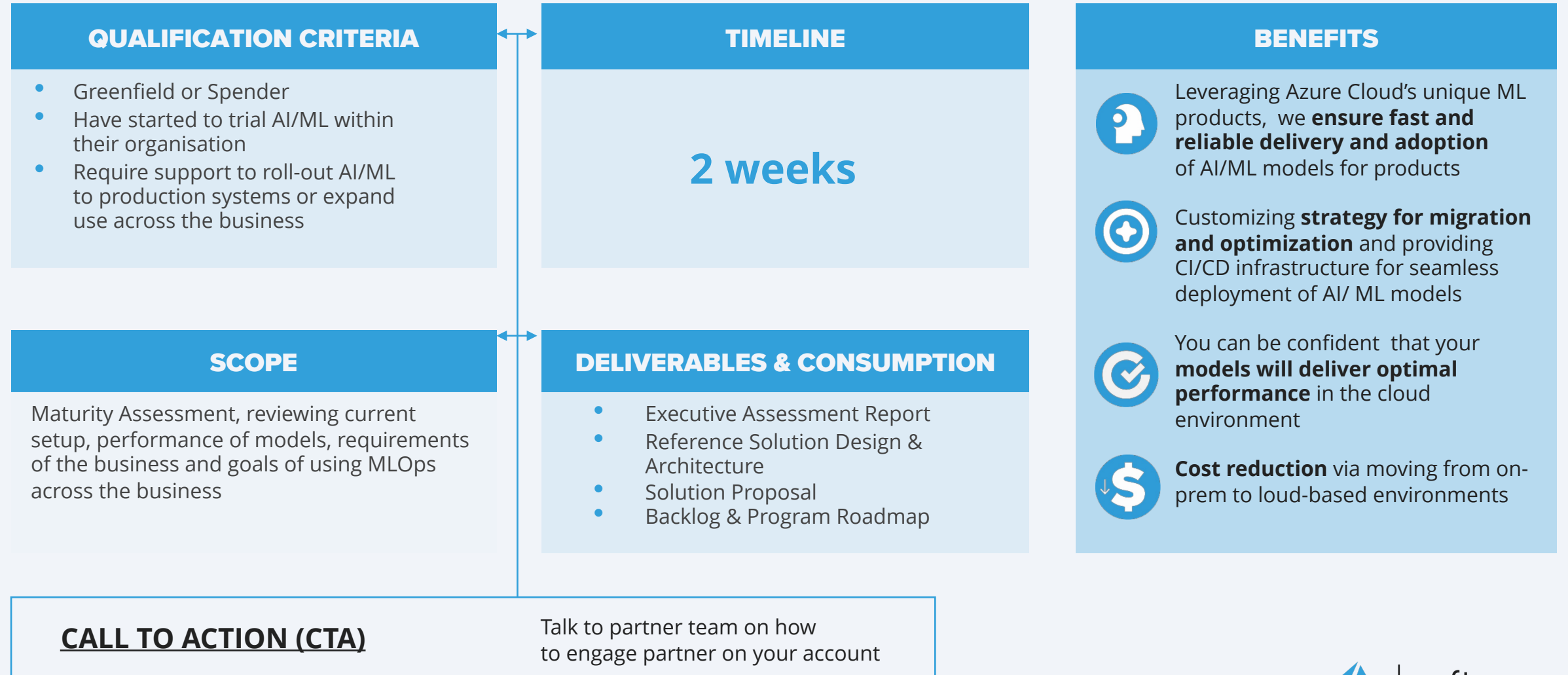
- Data and AI
- Digital and App Innovation
- Infrastructure
- Security

## 2 X SPECIALIZATIONS

- Kubernetes on Azure
- Analytics on Azure

# MLOPS LIFTOFF MATURITY ASSESSMENT

SoftServe's MLOps Maturity Assessment engagement supports clients to ideate, prioritize use cases and big ideas, and create an MLOps roadmap that brings the most value to your business and users in the most predictable, cost and time-efficient way.

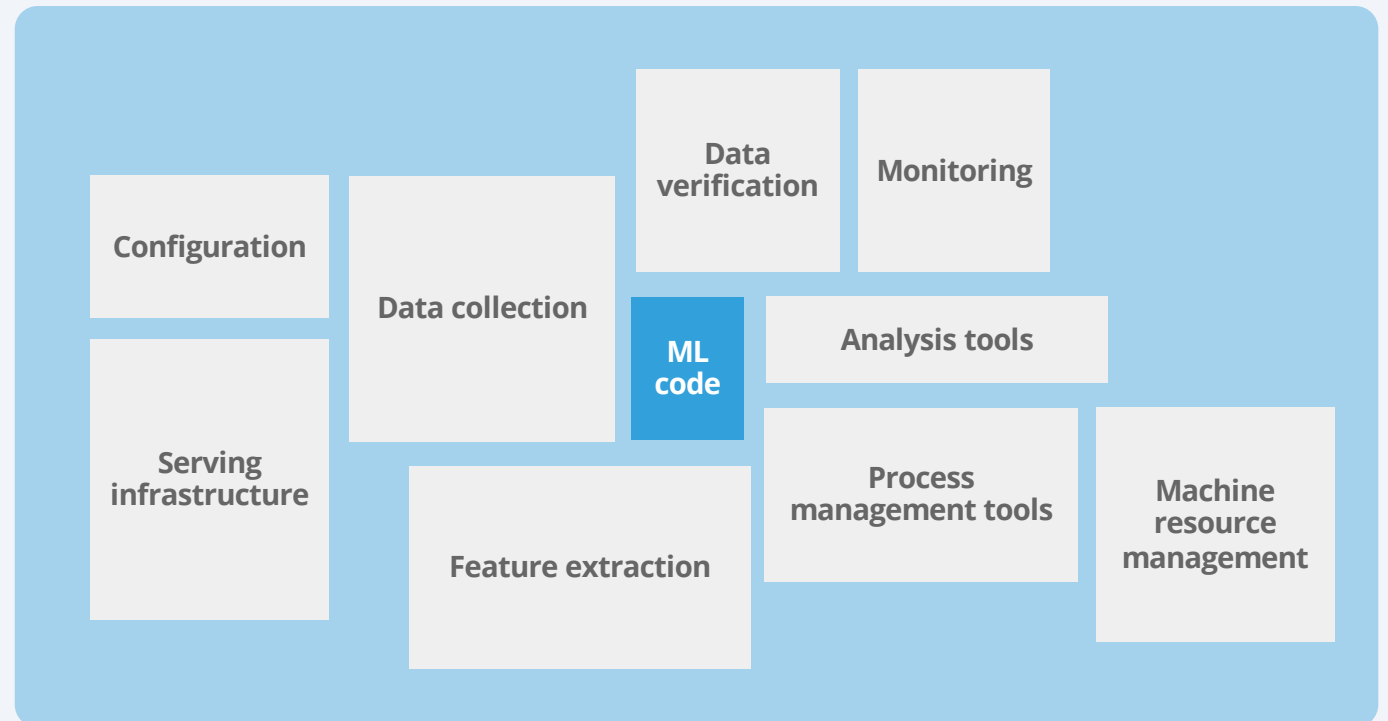


# WHY AI/ML NEEDS MLOPS FOR SCALE

## AI ADOPTION STRUGGLE

- Scaling AI/ML experiments requires lots of multiple components, iterations, and steps
- Delivering models to production needs well-established processes and workflows
- ML introduces new challenges for traditional SDLC and CI/CD lifecycles
- Success depends on the cooperation of multiple teams and stakeholders
- Production ML deployments require constant monitoring, quality control, and ability to debug critical issues

## ENTERPRISE REQUIRES MLOPS

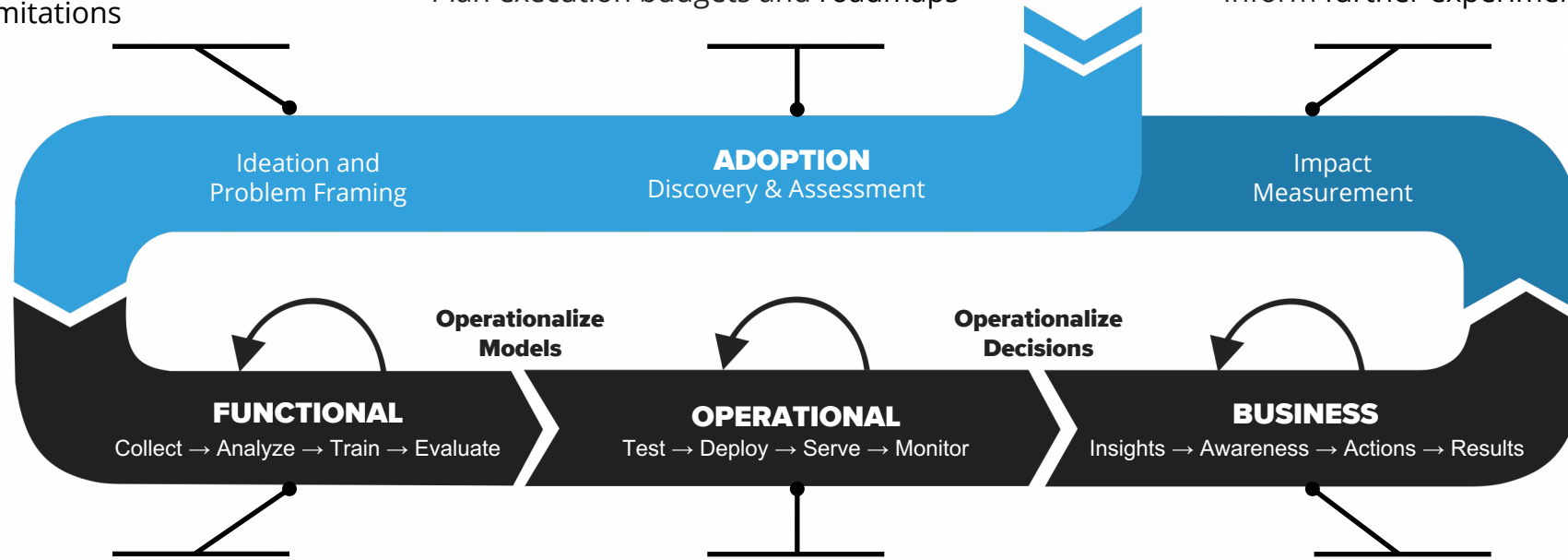


# SOFTSERVE AI LIFECYCLE

- Ideate solutions and hypothesis
- Scope out key components and systems
- Define requirements and success criteria
- Assess risks and limitations

- Align on business goals and objectives
- Identify and prioritize AI opportunities and use cases
- Plan execution budgets and roadmaps

- Measure real outcomes and the ROI
- Promote corporate awareness
- Inform further experimentation and adoption



- Identify and analyze data sources
- Design and prototype technical solutions
- Evaluate results and refine the approach
- Validate insights with SMEs and business

- Accelerate time-to-insights & time-to-action
- Streamline application and data integrations
- Ensure reliability, security, and auditability
- Optimize for costs and performance

- Integrate into business processes
- Build user trust with explainability and feedback loops
- Automate business-critical decisions



# SCALE YOUR MODEL SERVING WITH **ML LIFTOFF**



Leveraging Azure's unique ML products, we **ensure fast and reliable delivery and adoption** of AI/ML models for products

Customizing **strategy for migration and optimization** and providing CI/CD infrastructure for seamless deployment of AI/ ML models



You can be confident that your **models will deliver optimal performance** in the cloud environment

**Cost reduction** via moving from on-prem to cloud-based environments



# KEY STAGES

## STAGE 1

## STAGE 2

## STAGE 3

TOOLS PREREQUISITES

- Evaluation Data Sample
- Data Processing Logic
- Model + Expected Output



Azure ML



Azure ML Endpoint



Azure Synapse Analytics

DESCRIPTION

### Model Migration To Azure Cloud

The model object is integrated as an endpoint and migrated to Microsoft Azure from another cloud or on-premise environment for inference by the solutions using Azure ML pipelines and accelerators.

BENEFITS

**Fast and reliable collection** of model predictions using Microsoft Azure infrastructure and low latency networking.

- Model & Training Code
- Train & Evaluation Data



Azure ML Studio



Azure ML Pipelines



Azure ML Feature Store

### Minimum Viable MLOps Platform (CI/CD/CT)

The AI/ML solution is redesigned to match the MLOps Maturity level 4 (according to Microsoft Azure approaches) using Terraform templates and Azure ML accelerators.

The **optimized migration strategy** will be used with CI/CD, data transformation, and ML pipelines.

- Security Model
- Processes
- Role Model



Azure ML Pipelines



Azure ML Endpoints



Azure All services

### Governance & Automated Lifecycle

ML architecture is optimized and extended to support customized governance framework: deployment, monitoring, approvals, maintenance, and feedbacks processes

The model delivers **optimal results** based on a continuous stream of data, and costs are optimized.



Serving Container  
Azure Container Registry



Testing Pipeline  
Azure DevOps



Deployment Pipeline  
Azure DevOps



Data Pipeline  
Azure Data Factory







Model performance & data drifts  
Azure Monitor



# TEAM COMPOSITION AND TIMINGS

## TEAM TECHNICAL PROFILES

-  ML Architect
-  ML Engineer
-  DevOps Engineer (support)
-  Data Engineer (support)

## DELIVERABLES

- Azure Architecture
- Azure Components
- CI/CD/CT
- Codebase

## TIMEFRAME

Stage 1	5 weeks
Stage 2	7 weeks
Stage 3	12 weeks

# SOFTSERVE AI PRACTICE AT A GLANCE

## STATE OF THE ART AI EXPERTISE

**100+**

AI & Data Science experts, incl. PhDs

### ARTIFICIAL INTELLIGENCE

- Deep Learning
- Computer Vision
- Natural Language
- Generative AI
- Explainable AI

**500+**

Experts in BI, Big Data, IoT, Robotics, VR, R&D

### ADVANCED ANALYTICS

- Data Analysis
- Predictive Analytics
- Business Forecasting
- Simulation and Optimization

**200+**

Complex AI projects delivered

### MLOPS AND INFRASTRUCTURE

- Enterprise AI Platform
- ML Modernization
- Workload Migration
- AI Governance and Operations

## MULTIDISCIPLINARY EXPERT TEAM

### INTELLIGENT ENTERPRISE

AI & Data Science, BI, Big Data, IoT, Robotics, AR/VR

### EXPERIENCE DESIGN

Design Thinking, Digital Strategy, Service and Product Design, Design Ops

### CRITICAL SERVICES

Cloud services, DevOps, Security, Operations Support

### INNOVATION

Innovation Strategy with our proprietary platform and innovation team

### RESEARCH AND DEVELOPMENT

R&D Innovation, R&D as a Service, Deep Tech Research

### BUSINESS ANALYSIS

Product Management and Strategy, Business Analysis, Market Research

### DIGITAL PLATFORMS

Sitecore, Magento, Salesforce, MuleSoft

### SOLUTIONS

IT Advisory, Software Architecture, RPA, Performance Testing

## CROSS-INDUSTRY SOLUTIONS

### RETAIL

- Demand Forecasting
- Inventory and Assortment
- Pricing and Promotion
- Personalization
- Churn Prevention

### FINSERV

- Claim Processing
- Personalized Banking
- Fraud Detection
- KYC Analytics
- Asset Management

### HEALTHCARE

- Medical Imaging
- Clinical & EHR Analytics
- Patient Risk Assessment
- Precision Medicine
- Patient Engagement

### INDUSTRIAL

- Visual Intelligence
- Predictive Maintenance
- Production Optimization
- Industrial Automation
- Supply Chain Optimization

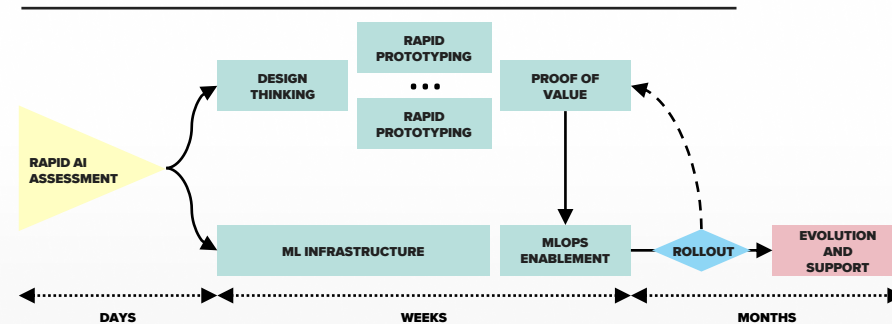
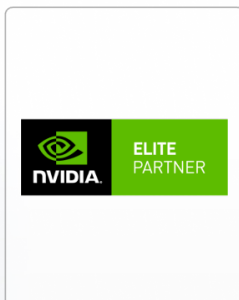
### PUBLIC SECTOR

- Personalized Learning
- Smart Parking
- Social Distancing
- Public Safety
- 311 Services

### CROSS-INDUSTRY

- Document Processing
- Content Moderation
- Service Desk Automation
- AI for IT Operations

## STRATEGIC ALLIANCES



**FOR  
THE  
FUTURE**