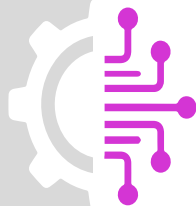


A3

SCIENCE and RESEARCH



A:CUBE



CONTENTS

WHO WE ARE

WHERE WE ARE

TEAM

WHY ACUBE

A3 RESEARCH

CROSS DOMAIN SCIENTIFIC

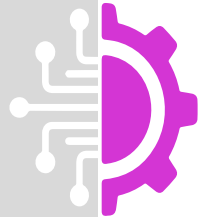
METHODS

DATA INFRASTRUCTURE

BENEFITS

SCIENTIFIC PARTNERS

WHO WE ARE



ACUBE (A³) IS AN AI COMPANY THAT DEVELOPS MATHEMATICALLY BASED AND RELIABLE MACHINE LEARNING SYSTEMS.

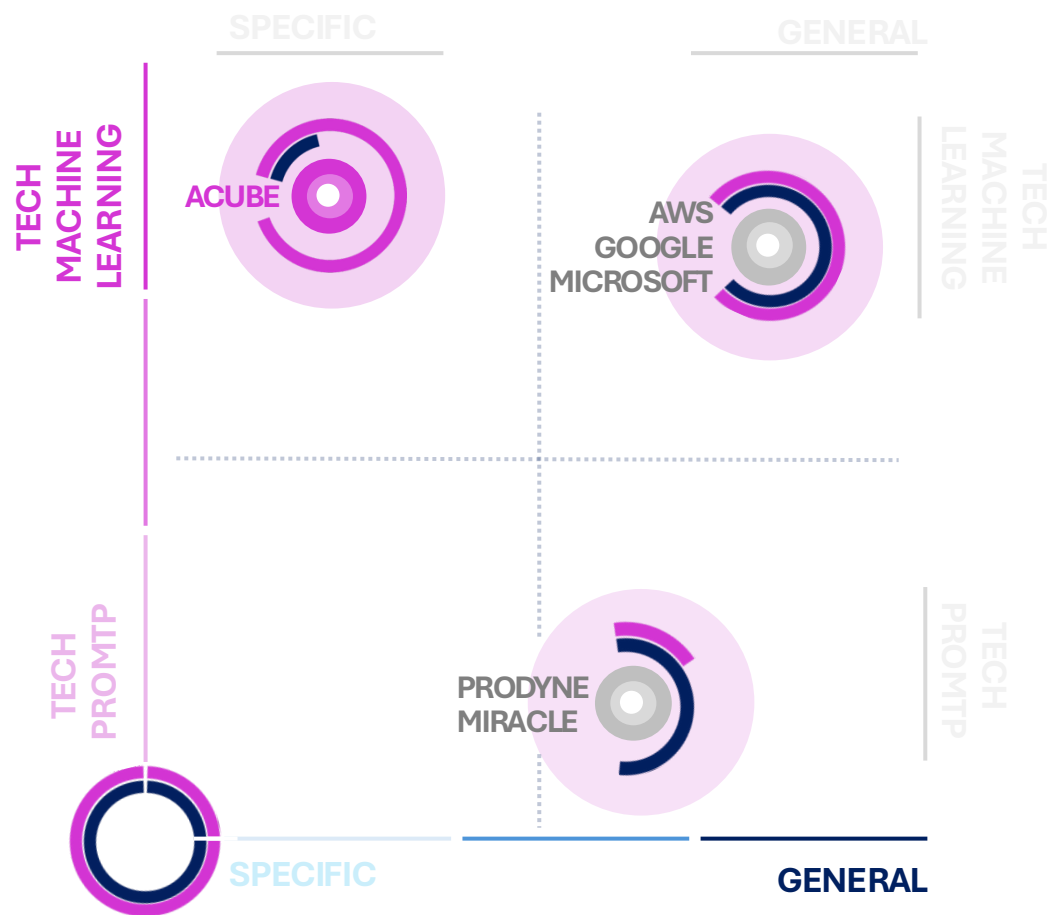
ACUBE (A³) IS ABLE TO DESIGN AND DEVELOP **NEW ARCHITECTURES** IN THE FIELD OF **MACHINE LEARNING** FOR SCIENCE AND RESEARCH PURPOSES BY CONTROLLING AND GOVERNING THE MATHEMATICAL LAYER.

ACUBE (A³) TURN FRONTIER METHODS INTO VALIDATED PROTOTYPES AND READY TO MARKET SOLUTIONS

ACUBE (A³) HAS TEAMS ACROSS ALGORITHMIC DESIGN, APPLIED ML, MLOPS, AND EVALUATION/ASSURANCE



«WHERE» WE ARE

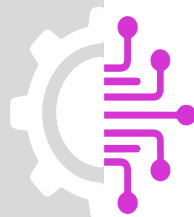


CREATORS: COMPANIES THAT DESIGN AND DEVELOP PROPRIETARY ALGORITHMS AND CORE TECHNOLOGIES

SYSTEM INTEGRATORS: COMPANIES THAT ASSEMBLE AND COMBINE EXISTING TECHNOLOGIES INTO COMPLETE SOLUTIONS

TEAM AND COMPETENCE AREAS

WHO YOU'LL
WORK WITH



MAIN COMPETENCE AREAS

FOUNDATIONAL & THEORY

ML THEORIST / STATISTICAL LEARNING
OPTIMIZATION RESEARCHER
PROBABILISTIC ML / BAYESIAN
GEOMETRIC & TOPOLOGICAL ML
CAUSAL ML / COUNTERFACTUALS

MODELS & METHODS

REPRESENTATION & SELF-SUPERVISED LEARNING
FOUNDATION-MODEL RESEARCHER (FM/LMM)
REINFORCEMENT LEARNING / MULTI-AGENT
NEURO-SYMBOLIC / PROGRAM SYNTHESIS
MECHANISTIC INTERPRETABILITY

MAIN COMPETENCE AREAS

SYSTEMS, EFFICIENCY & DEPLOYMENT

ML SYSTEMS / COMPILERS - EFFICIENT ML
MLOPS RESEARCH ENGINEER

TRUST, SAFETY & GOVERNANCE

ROBUSTNESS & RELIABILITY
FAIRNESS, ETHICS & POLICY, PRIVACY &
SECURITY

SAFETY & ALIGNMENT, VERIFICATION & FORMAL
METHODS

DATA, EVALUATION & INTERACTION

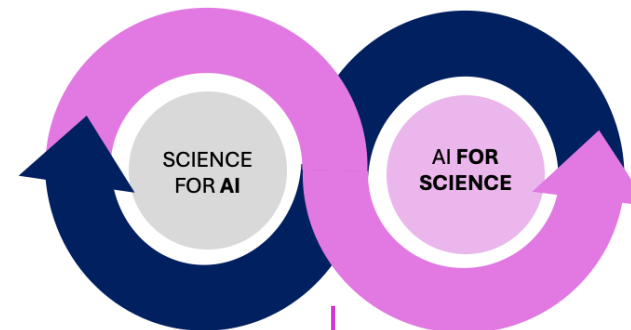
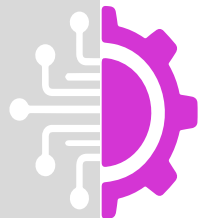
DATA-CENTRIC ML - BENCHMARKING &
EVALUATION SCIENCE
HUMAN-AI INTERACTION / XAI

TEAM

ACUBE HAS A HIGHLY QUALIFIED TEAM
OF **MATHEMATICAL MODELLERS,**
SOFTWARE ENGINEERS, DATA
SCIENTISTS, SOFTWARE ARCHITECTS,
DEVOPS ARCHITECTS, AND FULL-STACK
ENGINEERS.

WHY ACUBE?

UNLEASHING THE POTENTIAL OF SCIENCE



COLLABORATING WITH ACUBE MEANS PARTNERING WITH A TEAM THAT **TURNS CUTTING-EDGE SCIENCE INTO RELIABLE VALUE**. IN A WORLD WHERE ARTIFICIAL INTELLIGENCE IS REDEFINING HOW ORGANIZATIONS OPERATE, THE DIFFERENCE IS NOT JUST TECHNOLOGY, IT'S THE PEOPLE WHO DESIGN IT, INTEGRATE IT, AND USE IT RESPONSIBLY. WE PROVIDE USEFUL, SAFE, AND SUSTAINABLE **ARTIFICIAL INTELLIGENCE** THAT CREATES REAL IMPACT IN TERMS OF **SCIENTIFIC DISCOVERY**. WE **APPLY SCIENCE** THROUGH CONTINUOUS RESEARCH IN **ARTIFICIAL INTELLIGENCE**

ALGORITHMIC DEPTH (MATHEMATICAL LAYER) AND **ENGINEERING AT SCALE**, FROM PROOFS TO ROBUST SYSTEMS

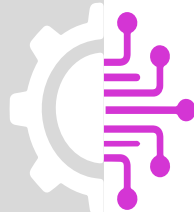
EVALUATION FIRST: CALIBRATION, OOD, FAIRNESS, SAFETY-BUILT IN FROM DAY ONE

INTEROPERABILITY BY DESIGN, SCHEMAS/ONTOLOGIES, APIS, STANDARDS ALIGNMENT

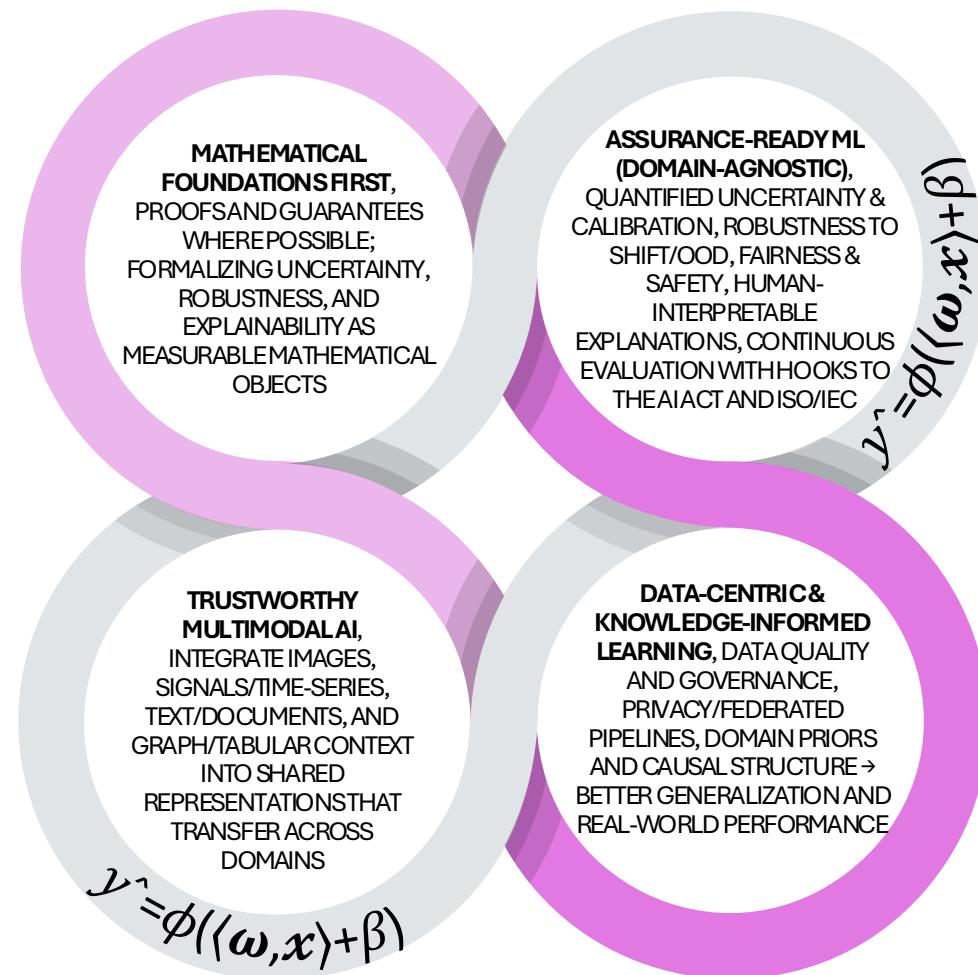
OPEN SCIENCE MINDSET, REPRODUCIBLE CODE, MODEL/DATA CARDS AND LEAN COLLABORATION

A3 RESEARCH?

VISION & PILLARS

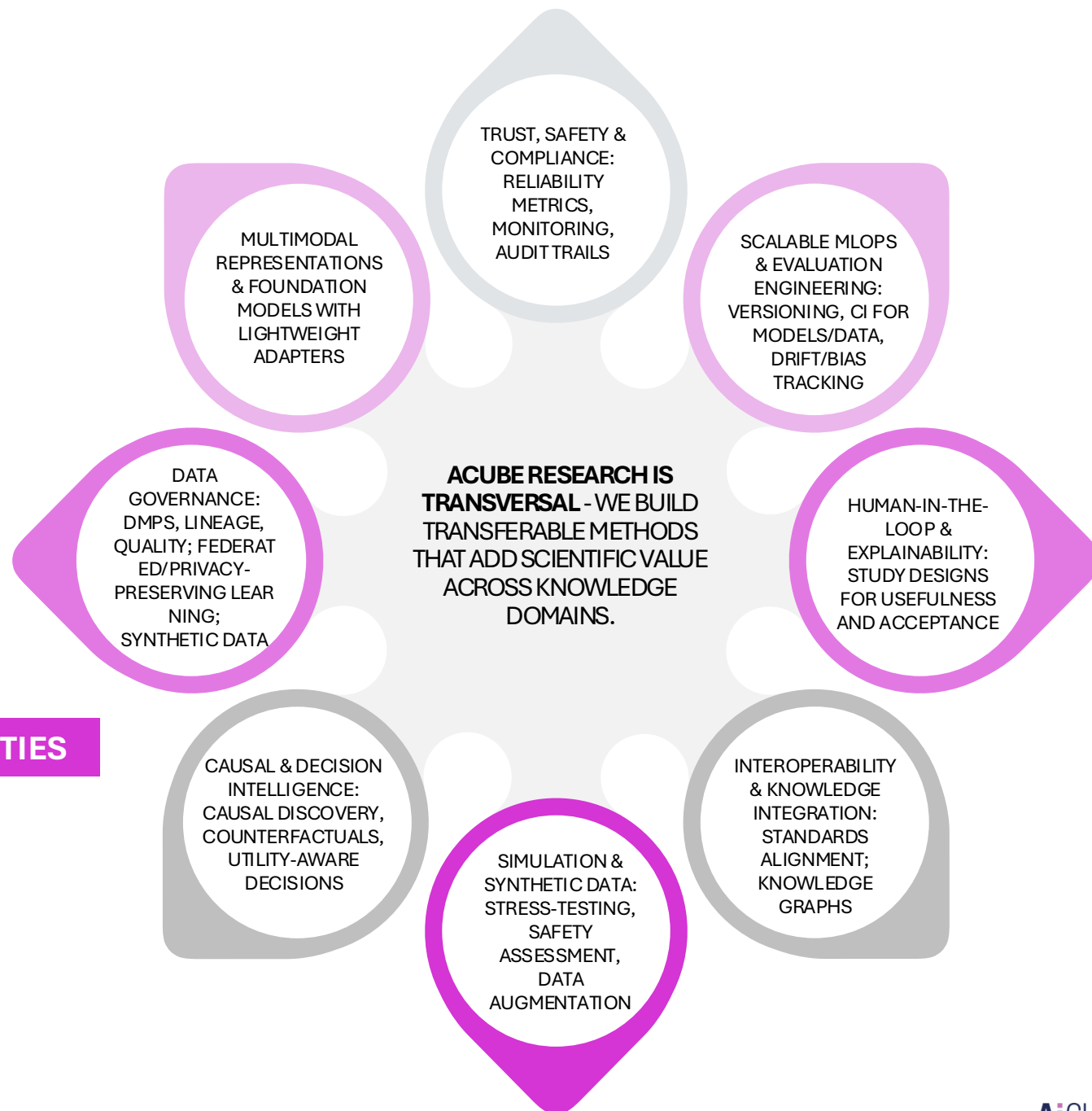
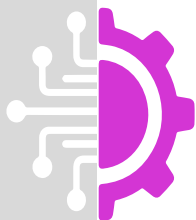


WE BELIEVE IN DOING SCIENTIFIC RESEARCH THAT UNDERPINS MACHINE LEARNING: THEORIES OF UNCERTAINTY AND CALIBRATION, GEOMETRY/OPTIMAL TRANSPORT, AND GRAPHICAL/CAUSAL STRUCTURES. MODELS THAT ARE PROVABLE, RELIABLE, AND GENERALIZABLE



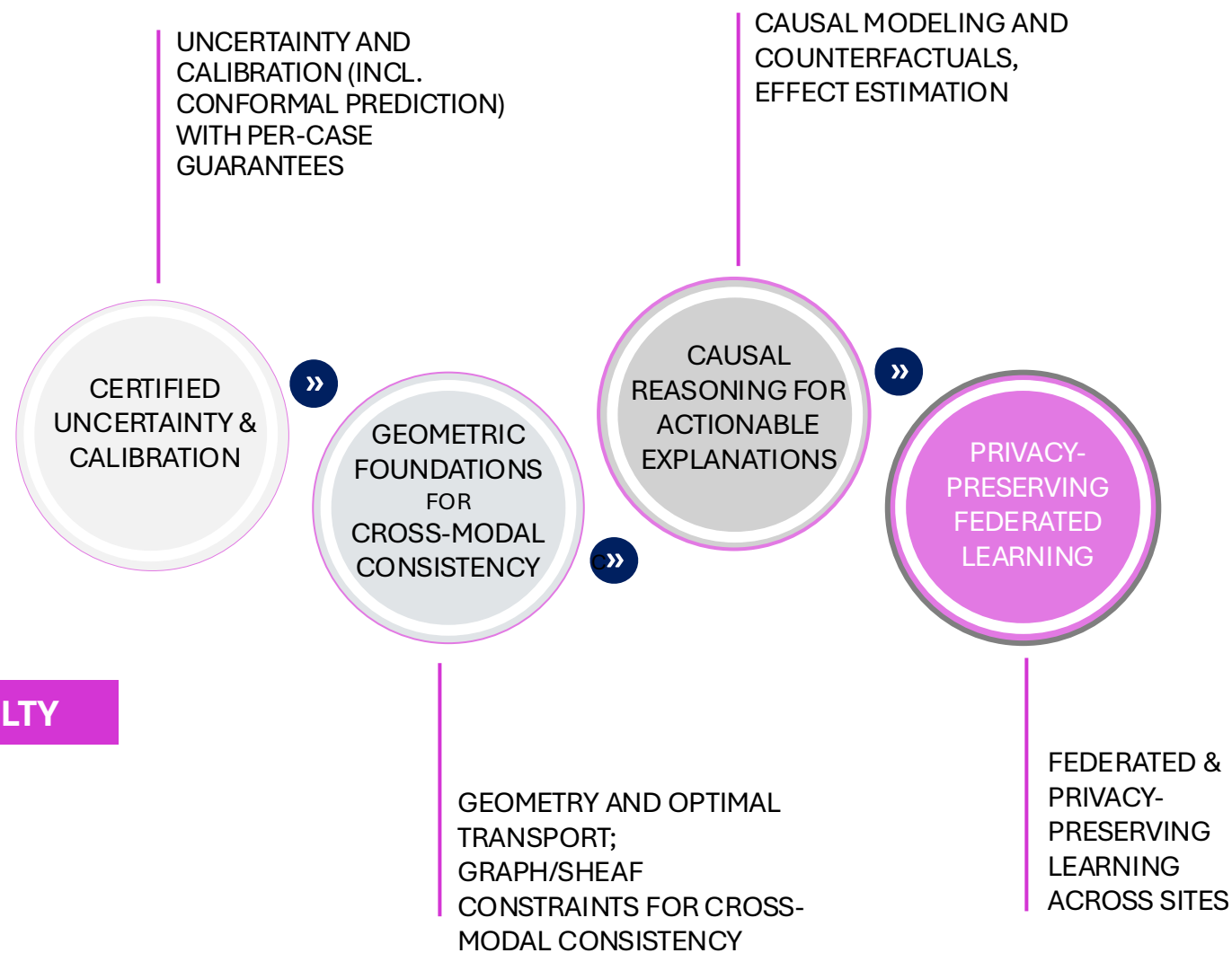
CROSS-DOMAIN SCIENTIFIC

CAPABILITIES



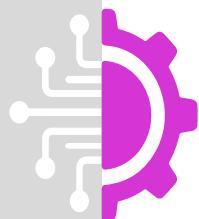
A3 METHODS

& NOVELTY



DATA INFRASTRUCTURE

AND SECURITY



WE OPERATE ON A **DOMAIN-AGNOSTIC, COMPLIANT, AND SCALABLE BACKBONE** THAT TURNS RESEARCH INTO **AUDITABLE, PRODUCTION-READY SYSTEMS**—COVERING COMPUTE, DATA GOVERNANCE, AND END-TO-END MLOPS

CLOUD/HPC-
READY TRAINING

FEDERATED
ORCHESTRATION WITH
AUDIT TRAILS

DATA
GOVERNANCE

DMPS, LINEAGE,
ACCESS POLICIES;
PSEUDONYMIZATION
PIPELINES

MLOPS

VERSIONED
DATASETS/MODELS,
CONTINUOUS EVALUATION,
DRIFT/BIAS MONITORING



BENEFITS

ADVANTAGES



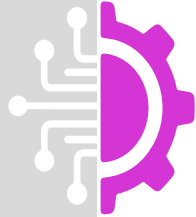
- STRONGER HORIZON PROPOSALS**
SHARPER ALIGNMENT TO EU PRIORITIES, STANDARDS, AND IMPACT
- RESEARCH YOU CAN TRUST**
METHODS WITH MEASURABLE RELIABILITY (CALIBRATION, ROBUSTNESS, FAIRNESS)
- FASTER PROOF CYCLES**
REUSABLE PIPELINES PLUS CLOUD/HPC AND FEDERATED SETUPS TO COMPRESS TIME FROM IDEA TO POP
- ASSURANCE & COMPLIANCE BY DESIGN**
RISK MANAGEMENT
ALIGNED WITH AI ACT/ISO/IEC, FULL AUDIT TRAILS AND GOVERNANCE
- REPRODUCIBILITY & OPEN SCIENCE**
BENCHMARKS, MODEL/DATA/RISK CARDS, AND OSS TOOLKITS FOR TRANSPARENT, VERIFIABLE RESULTS
- SEAMLESS INTEGRATION & INTEROPERABILITY**
STANDARDS-FIRST (SCHEMAS/APIS), PRODUCTION-GRADE MLOPS, AND CLEAN HAND-OFF TO PARTNERS
- PATH TO IMPACT & EXPLOITATION**
IPR STRATEGY, ONTRIBUTIONS TO STANDARDS, AND A CLEAR ROUTE TO TRANSITION/TECHNOLOGY TRANSFER



SCIENTIFIC

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BAVARIAN RESEARCH ALLIANCE GMBH (DE)
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