

BUSINESS CONFIDENTIAL



ZRA CAPABILITIES CATALOG

2025 - 2029

EMERGING TECHNOLOGIES

GSA

CYBERSECURITY & CRITICAL INFRASTRUCTURE

**GSA CONTRACT
47QRAA19D003F**

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INTRODUCTION

WHO WE ARE

ZRA is passionate about cybersecurity and dedicated to helping Federal Civilian Executive Branch (FCEB) departments and agencies achieve their cyber and infrastructure security missions. With a legacy of over 25 years supporting the Department of Homeland Security (DHS) and critical infrastructure stakeholders, we have earned a reputation as a trusted partner in delivering exceptional services. Our interdisciplinary team brings together innovative cybersecurity experts, leveraging expertise and diverse backgrounds to pioneer solutions that address risk assessment and mitigation, capability-based planning, IT transformation, compliance implementation, education and coaching.

ZRA was launched in conjunction with the President’s Commission on Critical Infrastructure Protection in 1996, serving as support for the Commission and the implementation of Presidential Decision Directive 63. Since then, ZRA leaders and staff have supported Cybersecurity and Infrastructure Security Agency (CISA) predecessors, including the National Cyber Security Division (NCSA) and the National Protection and Programs Directorate (NPPD). ZRA has proven itself integral in developing CISA’s major functions, including the United States Computer Emergency Readiness Team (US-CERT), National Security or Emergency Preparedness (NS/EP) communications, mission engineering, and stakeholder engagement.

Our team is driven by a shared mission to empower organizations to effectively navigate the complexities of cybersecurity. We have built enduring relationships with government agencies, providing invaluable guidance and support to ensure the protection of critical infrastructure and sensitive information in a continually evolving landscape.

WHAT WE DO

ZRA surpasses traditional cybersecurity solutions. We actively drive change to guide organizations towards a secure and resilient future. Our team excels in conducting thorough risk assessments, identifying vulnerabilities, and developing effective risk mitigation strategies. We believe in taking a forward-thinking approach to cybersecurity, enabling our clients to stay one step ahead of emerging threats. By leveraging industry-leading frameworks and methodologies, we ensure that our clients meet compliance requirements and adopt tailored best practices.

Our capability-based planning services empower organizations to chart a clear path towards a robust cybersecurity posture. With a deep understanding of the Federal Government landscape, we assist our clients in aligning their cybersecurity initiatives with their overarching strategic objectives. Leveraging our interdisciplinary expertise, we consider technical, operational, and policy perspectives to design comprehensive solutions that withstand the test of time. Our team takes pride in cultivating a culture of security awareness within organizations by providing education and coaching to equip personnel with the knowledge and skills to effectively combat cyber threats.

HOW WE DO IT

ZRA believes collaboration is the key to achieving success. We work side by side with our clients, forging strong partnerships based on trust, transparency, and shared goals.

- Our client-centric approach begins by thoroughly understanding their unique challenges, enabling us to develop tailored solutions that address their specific needs.
- Our comprehensive methodologies cover the entire cybersecurity life cycle, from initial assessment to ongoing monitoring and improvement. We align our practices with the Systems Engineering Life Cycle (SELC), Acquisition Life Cycle Framework (ALF), and other frameworks mandated by Congress and the Administration.
- Our priority is effective communication. We provide regular updates, progress reports, and actionable insights to ensure that our clients are informed and empowered at every step.
- We perpetually stay ahead of the curve, leveraging the latest best practices and industry trends to deliver innovative cybersecurity solutions. Our interdisciplinary team brings together experts from diverse backgrounds to foster a collaborative environment where innovative ideas flourish.
- We understand that cybersecurity encompasses more than just technology—it involves people, processes, and culture. That is why we place a strong emphasis on education and coaching, empowering our clients to become defenders of their own cybersecurity. We equip clients with the knowledge and skills necessary to make informed decisions, strengthen their security posture, and cultivate a culture of cybersecurity excellence within their organizations.

INTRODUCTION

OUR TEAM

ZRA stands at the forefront of our industry thanks to our exceptional team of cybersecurity professionals. Our team has decades of combined experience, a drive for knowledge, and a passion for excellence. We have assembled a diverse group of experts, including seasoned cybersecurity analysts, risk management specialists, compliance experts, and technology architects. Each team member brings a unique set of skills and perspectives, enabling us to provide comprehensive and interdisciplinary solutions to our clients.

Rigorous training and continuous professional development are integral parts of our team’s journey to tackle the latest advancements and challenges in cybersecurity. We foster a culture of collaboration to encourage knowledge sharing and the production of new ideas. By leveraging our collective expertise, we approach complex challenges with creativity and precision. This technically-proficient team is deeply committed to client success. We take pride in delivering exceptional service and building long-lasting relationships based on mutual trust and respect.



FIGURE 1.1 ZRA Organizational Tree

LLM PROMPT ENGINEERING

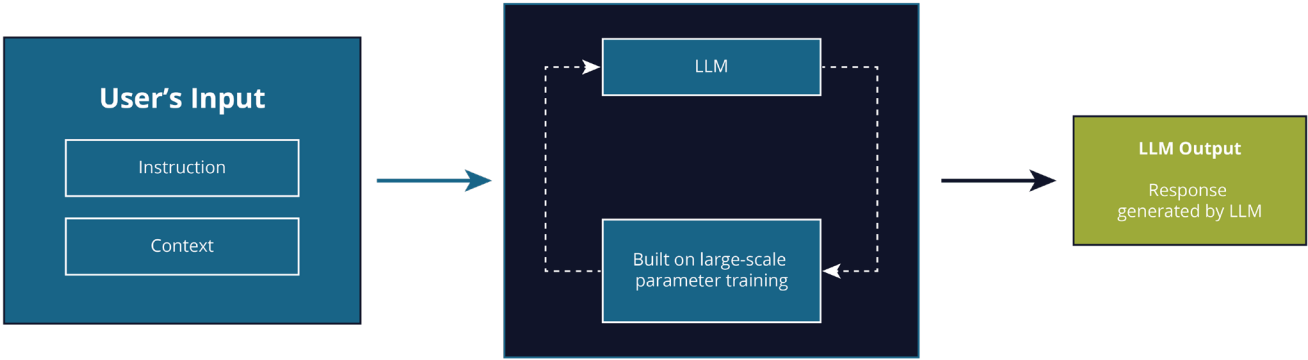
At ZRA, we specialize in the cutting-edge field of Large Language Model (LLM) Prompt Engineering, a critical capability for organizations seeking to harness the power of artificial intelligence effectively. LLM Prompt Engineering involves designing, refining, and optimizing the prompts and inputs that guide Artificial Intelligence (AI) models to deliver accurate and actionable outputs. Many organizations struggle to align LLMs with their unique strategic goals, often encountering challenges such as irrelevant or overly generic responses, suboptimal user experiences, and the need for tailored outputs that reflect specific industry contexts. ZRA addresses these challenges head-on by combining technical expertise with a deep understanding of business strategy, ensuring that organizations can fully leverage the transformative potential of LLMs.

ZRA begins by aligning LLM capabilities with an organization’s strategic needs, ensuring that the AI delivers outputs that directly support business objectives. We work closely with stakeholders to understand their goals, challenges, and operational context. By crafting precise and contextually relevant prompts, ZRA ensures that the LLM generates responses that are not only accurate but also actionable within the organization’s unique framework. This alignment minimizes inefficiencies and reduces the risk of irrelevant outputs, enabling organizations to make data-driven decisions more effectively. ZRA’s approach empowers businesses to integrate AI seamlessly into their workflows while maintaining a clear focus on their overarching strategic vision.

To enhance user experience and drive adoption, ZRA prioritizes delivering useful and intuitive outputs from LLMs. We recognize that even the most advanced AI models can fall short if their outputs are difficult to interpret or fail to meet user expectations. By leveraging our expertise in prompt engineering, ZRA tailors LLM interactions to produce clear, concise, and context-aware results. This user-centric approach not only improves productivity but also fosters trust in AI solutions among end-users. Whether it’s streamlining customer service interactions or generating actionable insights for decision-makers, ZRA ensures that every output from the LLM adds tangible value to the organization.

On the technical front, ZRA enhances LLM performance through fine-tuning on the back end, ensuring that models are optimized for specific use cases. We refine pre-trained models by incorporating domain-specific data and feedback loops, enabling them to generate outputs that are highly relevant and aligned with organizational needs. This iterative process allows ZRA to continuously improve model performance while addressing any gaps in accuracy or relevance. By combining prompt engineering expertise with advanced fine-tuning techniques, ZRA delivers AI solutions that are both robust and adaptable to evolving business requirements.

LLM Prompt Engineering



At ZRA, we leverage our expertise in LLM Prompt Engineering to address the core challenges faced by organizations in implementing AI effectively. By aligning LLMs with strategic needs, enhancing user experience through ensuring useful outputs, and fine-tuning models on the back end for optimal performance, ZRA provides comprehensive solutions that unlock the full potential of AI technologies. Our approach ensures that organizations not only adopt LLMs successfully but also achieve measurable outcomes that drive long-term success. With ZRA as a partner, businesses can confidently navigate the complexities of AI implementation and stay ahead in an increasingly competitive landscape.

AI SYSTEMS ASSURANCE

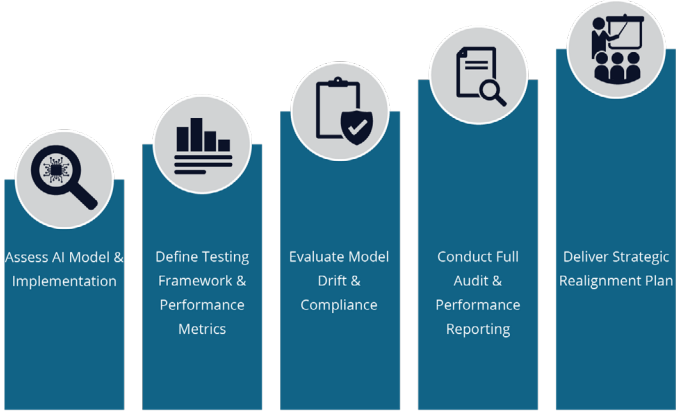
AI Systems Assurance is increasingly critical as government entities rely on large language models (LLMs) to drive decision-making and delivery of essential products and services. ZRA specializes in ensuring that LLMs are effectively aligned with design intentions and engineering requirements, providing a structured approach to identify, mitigate, thoroughly manage, and audit potential risks. We focus on optimizing model performance, ensuring appropriate implementation, and verifying ethical considerations in AI deployment.

AI assurance starts with program owner and stakeholder intentions. At ZRA, we work with government leaders to define strategic mission needs, translate needs and capability gaps into clear AI performance expectations, and shape system requirements across technical, operational, legal, and ethical domains. We help agencies navigate issues like bias mitigation, data provenance, explainability, and human-machine teaming from the outset — ensuring assurance is built in, not bolted on. Our approach enables traceable, requirements-driven development aligned with national security, public trust, and regulatory frameworks.

An AI system that performs in the lab isn’t guaranteed to behave reliably in the field. ZRA supports agencies in deploying and operating AI solutions with embedded assurance processes. We help clients design operational validation protocols, integrate real-world testing with continuous performance monitoring, and assess model drift, system adaptability, and mission alignment over time. Our goal: ensure AI operates as intended — under stress, at scale, and in alignment with ethical, legal, and operational expectations.

Agencies need more than technical evaluations — they need a repeatable framework for governance, risk, and compliance (GRC) tailored to AI. ZRA develops AI audit and assurance frameworks that align with emerging federal guidance (e.g., EO 14110, NIST AI RMF, OMB directives) and mission-specific constraints. Our approach brings together risk modeling, third-party assessment strategy, model documentation (Model Cards, FactSheets), and compliance tracking to provide leaders with end-to-end visibility, accountability, and control over AI assets.

AI Systems Assurance



Deploying AI in government is not just a question of capability — it’s a question of trust. At ZRA, we help federal agencies design, deploy, and govern AI systems that are robust, ethical, and auditable from day one. With a deep understanding of technical assurance and public sector complexity, we empower leaders to move faster — without sacrificing responsibility, transparency, or control.

AI-POWERED CYBER DEFENSE

As cyber threats become more complex and harder to detect, organizations are facing growing challenges in protecting their sensitive data and networks. At ZRA, we leverage AI-powered cyber defense to proactively detect, analyze, and respond to emerging threats with speed and accuracy. Leveraging machine learning and deep learning, our solutions identify patterns and anomalies within vast datasets, enabling real-time threat detection, rapid response, and continuous protection against advanced attacks.

Modern cyber resilience starts with intentional architecture. ZRA empowers agencies to build and maintain cyber-resilient environments by embedding security from ideation through deployment. We advise on Zero Trust architecture, shift-left development methodologies (DevSecOps and Site Reliability Engineering), and continuous compliance frameworks to align with federal standards (e.g., NIST, CMMC, EO 14028). Our guidance enables leadership teams to adopt secure-by-design principles, operationalize DevSecOps, and implement governance models that support real-time visibility and policy enforcement at scale.

Artificial intelligence is a force multiplier for cyber defense — enabling agencies to shift from reactive response to predictive, behavior-based threat detection. At ZRA, we help organizations identify use cases for supervised/unsupervised learning, anomaly detection, and user and entity behavior analytics (UEBA). We advise on integrating ML-driven platforms into threat hunting, SOC optimization, and deception-based active defense. Our approaches support decision-makers in balancing innovation with explainability, operational feasibility, and adversarial AI risk.

Effective leadership starts with situational awareness. ZRA provides high-impact benchmarking, literature reviews, and threat landscape analysis to help agencies understand the evolving cyber-AI ecosystem. We deliver tailored insights on market trends, adversarial tactics, and emerging technologies — identifying capability gaps and opportunities for strategic alignment. Our structured approach equips leaders to future-proof investments and positions their agencies as prudent innovators managing both high-impact risks and scarce resources.

AI Powered Cyber Defense



Real-Time
Threat Detection



Intelligent Network
Protection



Automated
Phishing Defense



AI-Enhanced
Authentication



Behavior-Based
Threat Analysis



Proactive
Cybercrime Defense

AI-powered cyber defense is more than a technology trend – instead ZRA is experiencing shifts across legacy programs – including CDM, CNCI, Zero Trust, and Supply Chain Risk Management as shifts in executive and program management decision making. ZRA delivers cross-functional insight and strategic clarity that federal leaders need to evaluate options, manage risk, and lead with confidence. From Zero Trust enablement to machine learning adoption and strategic foresight, we help our clients move from experimentation to execution — securely, intelligently, and at scale.

MACHINE LEARNING DRIFT

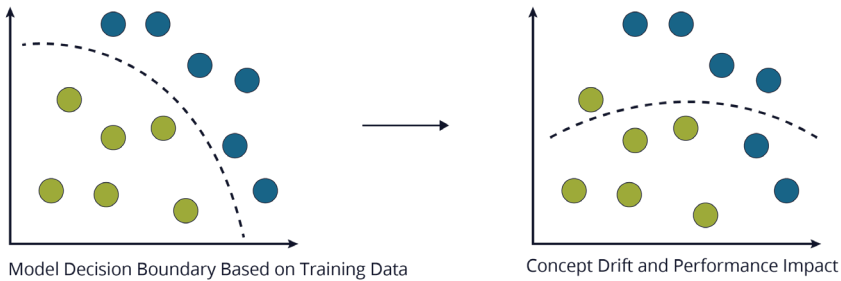
Concept drift being the relationship between the target variable and input feature changes and data drift being how models change over time, Machine Learning Model Drift is when a model's enactment on new data contrasts from how it performed on the training data that built it. At ZRA, we specialize in detecting drift and ensuring machine learning models are running optimally. Machine Learning Model Drift can materialize for various reasons, including changes in the data distribution over time, the addition of new data that doesn't fit the model's first assumptions, or the model's inability to adapt to frequent changes.

One of the biggest challenges organizations face with machine learning models is data drift, the gradual change in data patterns that can degrade model performance over time. Many companies deploy ML models without ongoing monitoring, leading to inaccurate predictions and flawed decision-making. ZRA provides comprehensive machine learning model monitoring and retraining strategies, ensuring that data shifts are detected quickly. By implementing automated anomaly detection and adaptive learning pipelines, we help businesses maintain model accuracy and reliability, minimizing the risks associated with data drift.

ZRA capabilities also include concept drift, where the relationship between input variables and target outputs changes due to evolving business conditions or external factors. Without proactive updates, machine learning models become obsolete, resulting in costly errors and inefficiencies. ZRA specializes in designing robust model retraining frameworks that incorporate continuous validation and feedback loops. By integrating advanced techniques such as reinforcement learning and adaptive algorithms, we ensure that models remain aligned with real-world conditions, allowing businesses to make data-driven decisions with confidence and ensuring the model is aligned with project needs.

An important challenge for Federal government entities is the lack of infrastructure to support continuous model updates and deployment. Many organizations operate with outdated data pipelines, insufficient computational resources, or inefficient version control, making it difficult to adapt models to changing conditions. ZRA helps businesses build scalable, resilient machine learning infrastructure by optimizing data pipelines, implementing automated model versioning, and leveraging cloud-based solutions for efficient retraining and deployment. By creating a streamlined, future-proof machine learning ecosystem, we ensure that organizations can rapidly adapt to data and concept drift without compromising performance or security.

Machine Learning Drift



In the ever-evolving landscape of AI and machine learning, staying ahead of model drift is essential for maintaining accuracy and reliability. At ZRA, we combine cutting-edge statistical analysis, real-time monitoring, and adaptive learning techniques to ensure that our models continue to perform optimally. By proactively identifying and addressing drift, we empower businesses to make data-driven decisions with confidence. With ZRA's expertise, organizations can trust that their AI solutions remain resilient, adaptive, and aligned with their strategic objectives, no matter how the data landscape changes.

POST-QUANTUM CRYPTOGRAPHY

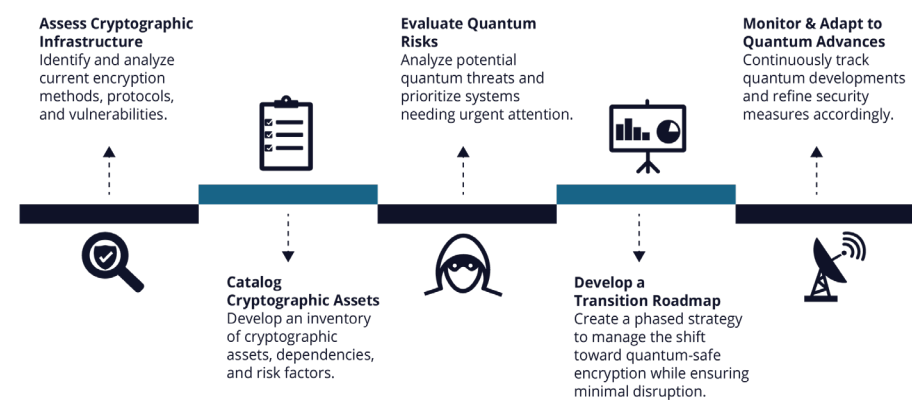
Post-Quantum Cryptography (PQC) presents significant challenges for organizations as they prepare for the advent of quantum computing. Quantum computers have the potential to render traditional encryption methods obsolete, exposing sensitive data to decryption risks. This concern is further emphasized by the National Security Memorandum 10 (NSM 10) which calls for a swift transition to quantum-resistant cryptography. The challenge of this transition lies in integrating new algorithms without compromising performance or scalability while also managing cryptographic inventories. Organizations face hurdles in identifying cryptographic vulnerabilities, developing secure migration strategies, and ensuring stakeholder alignment during the transition. ZRA specializes in addressing these challenges by providing structured solutions that enable organizations to adopt quantum-safe cryptographic standards effectively.

ZRA begins the PQC transition process by developing detailed cryptographic inventories. These inventories serve as a foundational step in identifying vulnerabilities within an organization's IT systems and assets. ZRA employs advanced discovery tools to ensure comprehensive visibility into cryptographic dependencies across applications, hardware, and cloud environments. By cataloging algorithms, encryption keys, and certificates, ZRA enables organizations to prioritize their inventory efforts based on risk criteria and regulatory requirements. This meticulous approach ensures that no vulnerable systems are overlooked in the migration process.

Building on the cryptographic inventories, ZRA designs comprehensive migration roadmaps tailored to each organization's unique needs. These roadmaps outline actionable steps for replacing legacy cryptographic methods with quantum-safe alternatives while minimizing disruptions to operations. ZRA's expertise includes evaluating post-quantum algorithms for performance compatibility, assessing hardware upgrade requirements, and implementing crypto-agile development practices. By aligning migration strategies with organizational objectives and regulatory mandates, ZRA ensures a seamless transition that balances security, performance, and cost considerations.

To ensure successful implementation of PQC strategies, ZRA emphasizes stakeholder engagement throughout the migration process. ZRA integrates stakeholders into migration analysis and decision-making frameworks. Our process emphasizes such divergent perspectives as human capital considerations, contracting and procurement, IT, security, finance, audit and legal. Through workshops, collaborative assessments, and transparent reporting mechanisms, ZRA fosters alignment among all parties involved. This inclusive approach not only enhances decision-making but also builds organizational confidence in adopting quantum-safe cryptographic standards.

Post-Quantum Cryptography



In conclusion, ZRA addresses PQC challenges through a logical progression of actions: developing cryptographic inventories to identify vulnerabilities; designing tailored migration roadmaps to replace outdated methods; and engaging stakeholders to ensure alignment during implementation. By leveraging its expertise in post-quantum cryptography transitions, ZRA empowers organizations to safeguard their digital infrastructure against emerging quantum threats while maintaining operational efficiency and compliance.

TRAINING AI

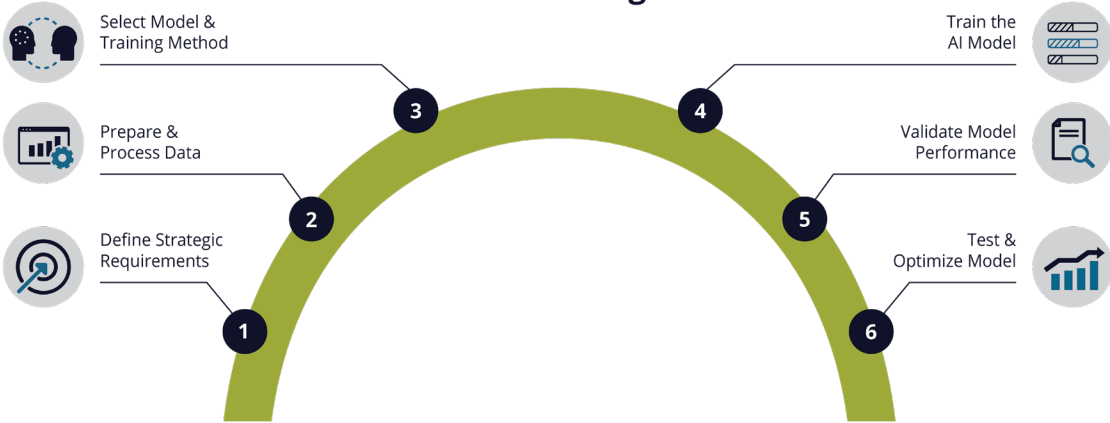
Artificial intelligence is only as effective as the data and methodologies used to train models, making AI training a critical factor in achieving reliable, high-performing products and services. At ZRA, we specialize in designing and implementing tailored AI training strategies that ensure accuracy, efficiency, and ethical integrity. Our expertise lies in training sophisticated machine learning models tailored to address complex business challenges. By leveraging cutting-edge artificial intelligence training methods, ZRA ensures that organizations can harness the full potential of AI to drive innovation and efficiency across various industries.

In the realm of curating high-value, mission-relevant data, ZRA excels at assembling datasets that are not only extensive but also precisely aligned with our clients' specific objectives. We employ rigorous data quality assurance processes to eliminate biases and ensure the integrity of the training data. Our team meticulously prepares and annotates datasets, establishing robust data pipelines that facilitate seamless AI model development. By prioritizing data relevance and quality, we lay the foundation for AI systems that deliver accurate and reliable results in real-world applications.

ZRA's approach to optimizing training with mathematical precision involves selecting the most appropriate model architectures and algorithms based on the unique requirements of each project. Our team carefully balances model complexity with desired accuracy, utilizing advanced techniques such as convolutional neural networks for image processing tasks or natural language processing models for text-based applications. ZRA employs state-of-the-art AI governance tools to ensure that our models not only perform exceptionally but also adhere to ethical standards and regulations.

Recognizing the critical importance of continuous learning and human oversight, ZRA implements a robust feedback loop in our AI training processes. We integrate human expertise at every stage, from initial model development to ongoing refinement and validation. Our team conducts regular audits and assessments to identify and address any biases or shortcomings in AI systems. ZRA fosters a collaborative environment where human insight and machine learning capabilities work in tandem, ensuring that AI models remain aligned with human values and adaptable to evolving business needs.

AI Training



ZRA's comprehensive AI training strategy encompasses the curation of high-quality, relevant data, mathematically precise optimization of training processes, and the integration of continuous learning with human oversight. By addressing these critical aspects of AI development, we enable organizations to harness the full potential of artificial intelligence while maintaining ethical standards and ensuring long-term reliability. ZRA's approach not only maximizes the performance of AI models but also fosters trust and accountability in AI-driven decision-making processes.

DISTRIBUTED DATA ANALYTICS

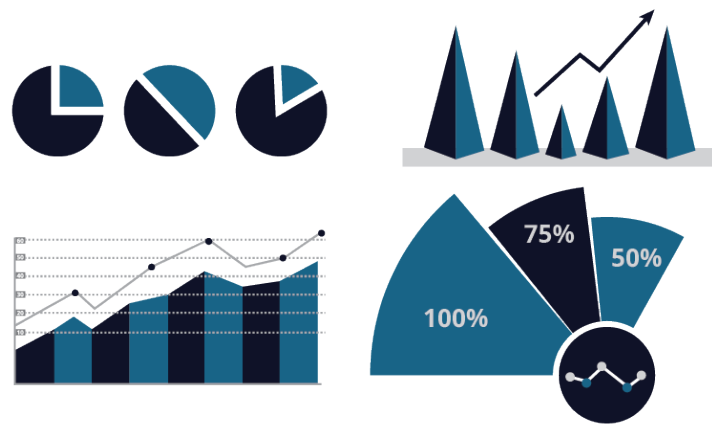
Distributed Data Analytics has emerged as a critical capability for organizations grappling with the challenges of processing and analyzing vast amounts of data across geographically dispersed locations. As data volumes continue to grow exponentially, traditional centralized analytics approaches often fall short in delivering timely insights and efficient resource utilization. ZRA recognizes the complexities organizations face in implementing Distributed Data Analytics, including data consistency, network latency, and the need for specialized expertise across multiple locations.

ZRA excels in developing analytics tailored for distributed participants, addressing the unique challenges of decentralized data environments. By leveraging advanced algorithms and machine learning techniques, ZRA creates customized analytical models that can operate effectively on local datasets while maintaining global coherence. These tailored analytics enable organizations to extract valuable insights from diverse data sources across multiple locations, ensuring that each participant in the distributed network can contribute meaningfully to the overall analytical process.

In response to the varying needs of modern data ecosystems, ZRA develops architectures for multi-tiered analytics that seamlessly integrate distributed and centralized approaches. This hybrid model allows organizations to balance the benefits of local processing with the power of centralized analysis. ZRA's innovative architectures enable real-time data processing at the edge for immediate insights, while also facilitating the aggregation of data for comprehensive, organization-wide analytics. This multi-tiered approach ensures optimal performance, scalability, and flexibility in handling diverse analytical workloads.

ZRA develops strategies for implementing multi-tiered analytics that maximize cost-effectiveness and operational efficiency. By carefully assessing an organization's data landscape, infrastructure, and analytical requirements, ZRA crafts tailored implementation plans that optimize resource allocation across distributed and centralized components. These strategies encompass data governance frameworks, network optimization techniques, and intelligent workload distribution mechanisms. ZRA's approach ensures that organizations can harness the full potential of their distributed data assets while minimizing operational overhead and maximizing return on investment.

Distributed Data Analytics



ZRA's comprehensive approach to Distributed Data Analytics addresses the critical challenges faced by organizations in today's data-driven landscape. By developing tailored analytics for distributed participants, creating multi-tiered architectures, and implementing strategic deployment plans, ZRA empowers organizations to unlock the full potential of their distributed data assets. This end-to-end solution enables clients to achieve greater agility, scalability, and efficiency in their data analytics initiatives, positioning them for success in an increasingly decentralized and data-intensive business environment.

DIGITAL TWIN

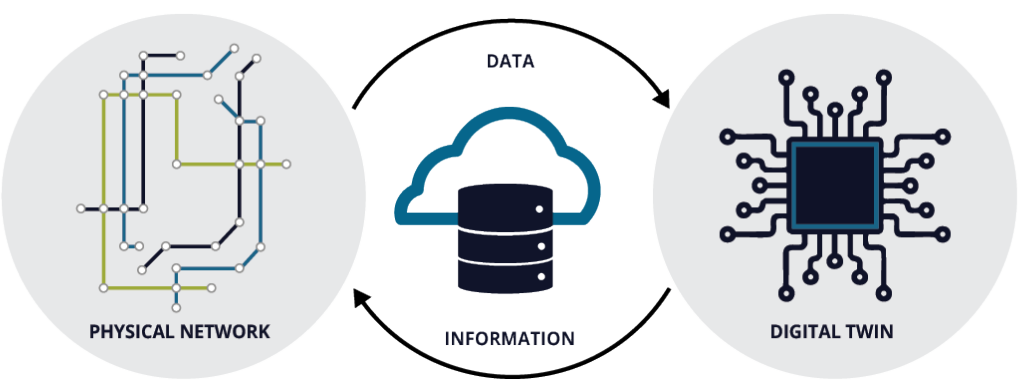
A digital twin is a virtual demonstration of an object or system designed to accurately reflect a physical object. At ZRA, we specialize in using digital twins to ensure the digital model accompanies various stimulations, survey complications, and generate possible augmentations, ultimately seeking to obtain knowledge that can be used to better the original physical entity. Working with digital twins brings forth three key advantages and benefits: better R&D, greater efficiency, and end-of-life insights.

Digital twins revolutionize research and development (R&D) by building environments for probabilistic models and consequences in near real time, enabling extensive simulations and testing before any physical prototype is created. At ZRA, we leverage AI-driven digital twins to conduct statistical analysis on vast datasets, allowing clients and stakeholders to identify trends, predict outcomes, and optimize designs. By aligning our digital models with real-world variables, we ensure that each iteration brings us closer to the desired vision. This alignment reduces costly trial-and-error phases, speeds up the innovation cycle, and ultimately results in more refined, high-performing products.

Beyond R&D, digital twins significantly enhance operational efficiency. By integrating AI and real-time data monitoring, ZRA enables entities to track system performance, predict maintenance needs, and optimize workflows. Statistical analysis plays a crucial role in identifying inefficiencies and suggesting improvements. With precise alignment between digital and physical systems, organizations can minimize downtime, reduce operational costs, and enhance overall productivity. This proactive approach ensures government program managers and other executives stay ahead of potential disruptions while continuously improving processes.

Digital twins provide invaluable insights into a product's end-of-life phase, allowing for more sustainable and cost-effective decision-making. At ZRA, we use AI-powered digital twins to analyze material degradation, predict failure points, and recommend optimal recycling or repurposing strategies. Through statistical analysis, we assess usage patterns and determine the best ways to extend product life cycles or develop next-generation replacements. By maintaining alignment with project requirements, security concerns, sustainability goals, and industry standards, ZRA helps companies make informed, environmentally responsible choices that maximize value throughout a product's lifespan while also considering resource efficiency.

Digital Twin



Digital twins are transforming the way government leaders achieve innovation, efficiency, and sustainability. At ZRA, our expertise in AI-driven digital twin technology empowers stakeholders to optimize R&D, streamline operations, and make informed end-of-life decisions. By harnessing advanced statistical analysis and real-time simulations, we bridge the gap between the physical and digital realms, ensuring smarter, more cost-effective solutions. As industries continue to evolve, ZRA remains committed to driving progress through the power of digital twins, unlocking new opportunities for growth, sustainability, and technological excellence.

EMERGING SOFTWARE TECHNOLOGY

Emerging software technology represents the cutting-edge advancements in software development and applications that have the potential to revolutionize various industries and sectors. Organizations face significant challenges in implementing these technologies due to their complexity, rapid evolution, and the need for specialized expertise. At ZRA, we specialize in Software Understanding, a critical practice that involves comprehending both the intended and unintended functionality of software systems. Organizations face challenges in addressing the complexities of modern software, and our expertise in formal methods helps tackle these issues effectively.

ZRA plays a crucial role in helping government agencies support the community working on future software technologies. By fostering collaboration between public and private sectors, ZRA facilitates knowledge sharing and accelerates innovation in emerging software fields. We organize workshops and conferences that bring together experts, researchers, and developers to exchange ideas and showcase groundbreaking solutions. Additionally, ZRA assists government bodies in developing policies and frameworks that encourage the growth of emerging software ecosystems, ensuring that the community has the necessary resources and support to push the boundaries of technological advancement.

To keep pace with the latest software innovations, ZRA specializes in analyzing software artifacts to address the vast volume of third-party software in use. We leverage advanced Software Artifact Dependency Graph (ADG) Generation capabilities to better understand, manage, and reduce risk in the software that powers cyber and physical infrastructure. Our experts utilize software bills of materials (SBOMs) to gain visibility into the components and dependencies of software systems, enabling government organizations to make informed decisions and improve their security posture. ZRA's approach to software composition analysis helps federal agencies identify vulnerabilities, ensure code integrity, and enhance collaboration while maintaining data security and compliance. By employing these cutting-edge techniques, we enable our clients to stay at the forefront of emerging trends in cloud-native ecosystems, edge computing, and AI-powered cybersecurity.

ZRA is at the forefront of developing Software Understanding, a critical practice in today's complex technological landscape. This innovative approach involves comprehensively analyzing software systems to uncover both intended and unintended functionalities. ZRA's experts employ advanced techniques such as static and dynamic analysis, machine learning, and reverse engineering to gain deep insights into software behavior. By doing so, ZRA helps organizations identify potential vulnerabilities, optimize performance, and ensure compliance with regulatory requirements. This practice is particularly valuable in scenarios involving legacy systems, third-party software integration, and security audits.

Emerging Software Technology



ZRA addresses the challenges of emerging software technology implementation through a multifaceted approach. By supporting the future software community, keeping pace with the latest software innovations, and pioneering Software Understanding practices, ZRA empowers organizations to stay ahead in the rapidly evolving digital landscape. Our comprehensive solutions enable clients to harness the full potential of cutting-edge software technologies while mitigating associated risks and complexities. With ZRA's expertise, organizations can confidently navigate the future of software technology and drive innovation in their respective fields.

WORKFLOW AUTOMATION

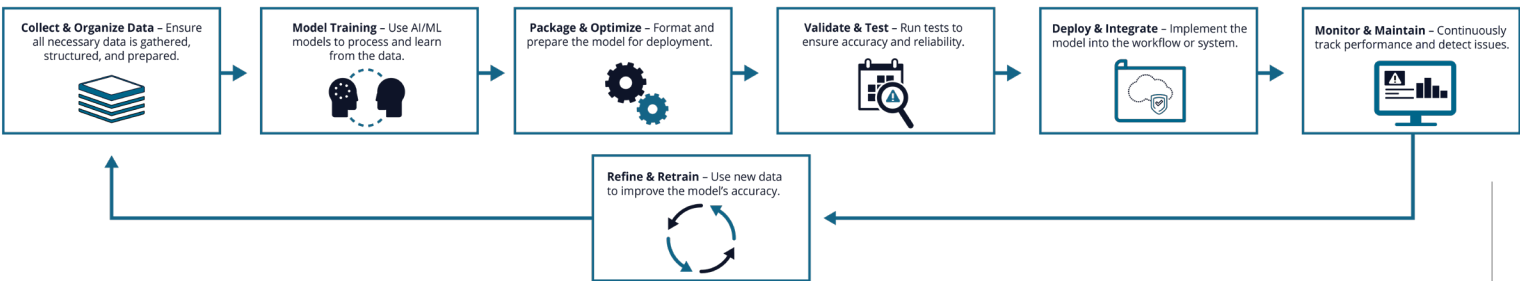
Workflow automation uses task management software to route tasks and information between people and systems based on predefined rules and triggers, significantly enhancing efficiency and productivity. However, organizations often struggle to implement effective workflow automation due to the complexity of integrating new tools with existing systems, identifying suitable tasks for automation, and monitoring the automated processes. ZRA specializes in addressing these challenges and helping businesses unlock the full potential of workflow automation.

ZRA excels at integrating new automation tools with existing systems, ensuring a seamless transition and minimal disruption to ongoing operations. By carefully assessing current systems, identifying crucial data sources and destinations, and planning data mapping and transformation, ZRA creates a comprehensive integration strategy. Our expertise in connecting systems using APIs and other integration methods, coupled with its focus on data security and authentication, enables clients to leverage the power of automation while maintaining the integrity of their existing infrastructure.

To maximize the benefits of workflow automation, ZRA employs a systematic approach to pinpoint repetitive, labor-intensive tasks that can be streamlined through automation. By conducting thorough assessments of current workflow processes and manual data tasks, ZRA identifies patterns and bottlenecks that are prime candidates for automation. Our experts analyze task frequency, complexity, and potential time and resource savings to strategically choose tasks where automation will have the maximum impact, freeing up valuable employee time for high-impact, strategic work.

ZRA implements intelligent workflow monitoring solutions that provide real-time analytics, audit trails, and customizable dashboards, enabling organizations to track and optimize their automated processes. By leveraging AI-driven solutions and dynamic workflows that adapt to changing business needs, ZRA ensures that clients can monitor performance, identify areas for improvement, and make data-driven decisions. Our approach to workflow monitoring not only enhances transparency and accountability but also facilitates continuous improvement and scalability of automated processes.

Automated Workflow



ZRA offers a comprehensive solution to the challenges of implementing workflow automation. By seamlessly integrating new automation tools with existing systems, identifying the most impactful tasks for automation, and implementing intelligent monitoring solutions, ZRA empowers organizations to transform their operations and achieve unprecedented levels of efficiency and productivity. With ZRA's expertise, businesses can confidently navigate the complexities of workflow automation and unlock its full potential to drive success in today's competitive landscape.

APPENDIX I: PAST PERFORMANCE

APPENDIX II: ACRONYMS

UNITED STATES DEPARTMENT OF ENERGY (DOE)
SANDIA NATIONAL LABORATORIES (SNL)

Period of Performance:
JANUARY 2025 - PRESENT

Contract Title:
CISA Cyber Support

Customer POC/ Email:
Noel Nachtigal/Nmnacht@sandia.gov

Total Contract Value:
\$24,000,000

CPARS Available:
No

- Utilized expertise on Federal Government and DHS policies, directives, and leadership to provide SNL with an understanding of the growing dependence on information infrastructure.
- Provided recommendations on ensuring proper technical deliverables, customer engagements, and strategic planning.
- Conducted analysis on how the Federal Government approaches cybersecurity risk to develop SNL's risk-informed methodologies and metrics for cybersecurity.

UNITED STATES DEPARTMENT OF ENERGY (DOE)
SANDIA NATIONAL LABORATORIES (SNL)

Period of Performance:
JUNE 2023 - DECEMBER 2024

Contract Title:
CISA Cyber Support

Customer POC/ Email:
Wendy Dolstra/Wdolstra@sandia.gov

Total Contract Value:
\$9,900,000

CPARS Available:
No

- Utilized expertise on Federal Government and DHS policies, directives, and leadership to provide SNL with an understanding of the growing dependence on information infrastructure.
- Provided recommendations on ensuring proper technical deliverables, customer engagements, and strategic planning.
- Conducted analysis on how the Federal Government approaches cybersecurity risk to develop SNL's risk-informed methodologies and metrics for cybersecurity.

UNITED STATES DEPARTMENT OF ENERGY (DOE)
SANDIA NATIONAL LABORATORIES (SNL)

Period of Performance:
MARCH 2019 - MARCH 2023

Contract Title:
CISA Cyber Support

Customer POC/ Email:
Kayla Terry/KTerry@sandia.gov

Total Contract Value:
\$20,000,000

CPARS Available:
No

- Tracked changes to policies, directives, and leadership to provide relevant updates to National Technology & Engineering Solutions of Sandia (NTESS).
- Supported NTESS Program Leadership Team by leveraging environment awareness in oversight programs and providing recommendations for strategic planning, technical and programmatic vision, and strategic engagement efforts.

DEUTSCHE BANK (DB)

Period of Performance:
JULY 2016 - OCTOBER 2020

Contract Title:
Cybersecurity Strategy and Threat Assessment

Customer POC/ Email:
Wade Bicknell/ wade.bicknell@db.com

Total Contract Value:
\$874,042.90

CPARS Available:
No

- Assisted in the development of DB's Threat Assessment by identifying major cybersecurity threats and providing key benchmarks and metrics for threat mitigation.
- Responded to DB Chief Information Security Officer (CISO) review of existing capability models by addressing risk environment changes and strategic business and management challenges affecting corporate performance.
- Assessed and mitigated cybersecurity risks, pressures to deliver financial and operating efficiencies across stove-piped IT and engineering, and stakeholder management.

ADG: Artifact Dependency Graph

AI: Artificial Intelligence

CDM: Continuous Diagnostics and Mitigation

CMMC: Cybersecurity Maturity Model Certification

CNCI: Comprehensive National Cybersecurity Initiative

EO: Executive Order

GRC: Governance, Risk, and Compliance

LLM: Large Language Model

ML: Machine Learning

NIST: National Institute of Standards and Technology

OMB: Office of Management and Budget

PQC: Post Quantum Cryptography

RMF: Risk Management Framework

SBOM: Software Bill of Materials

SOC: Security Operations Center

UEBA: User and Entity Behavior Analytics



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