COLSA

The COLSA Data Science division is developing solutions to our customer's toughest challenges. Through direct support of the Department of Defense and Intelligence Community as well as leading edge research and capability development, COLSA's focus is on helping customers develop and deliver advanced capabilities in support of critical mission and operational requirements. COLSA's Data Science capabilities include institutionalizing data science, robust data engineering and maturing Machine learning Operations(MLOps). COLSA is currently providing solutions in the domains of Knowledge Management Solutions, Enhanced Signals Analysis, and Scientific Machine Learning.

DATA ANALYSIS AND COMPUTATIONAL SCIENCES (DACS) LAB

COLSA's Computational Powerhouse.

The Data Analysis and Computational Sciences (DACS) Lab is COLSA's state-of-the-art computer laboratory environment for Data Science solution development. We recognize our customers often lack the computational capabilities, accumulated research, personnel, processes, and systems to securely and efficiently develop data science solutions. In combination with with our data engineering solutions the DACS Lab at COLSA provides our customers with the resources to quickly meet mission needs.

ENTERPRISE-WIDE STRATEGIES FOR DATA SCIENCE

Institutionalizing Data Science.

Most organizations understand there is value in the ever-increasing availability of data but face several challenges when it comes to realizing that value. To address this, organizations may invest in costly technical solutions that are not aligned with the problem to be solved or beyond the skill set of the team. COLSA provides guidance on how to effectively and efficiently build data science capability so organizations can make strategic investments and optimize how teams are engaged.

DATA ENGINEERING AND MACHINE LEARNING OPERATIONS (MLOPS)

Solving data concerns and applying Dev Ops to Data Science.

Effective data engineering solutions aim to make data accessible and secure. Data engineers apply recent developments in DevOps to machine learning problem spaces, known as MLOps, to provide data assurance. Advances in tactical-edge hardware, optimized modeling, and streaming analytic techniques help manage large data-sets, providing more reliable information at mission speed to support faster decision making with

KNOWLEDGE MANAGEMENT SOLUTIONS

The New Science of Decision Making.

Historically, subject matter experts (SMEs) had the ability to track, process, understand, and quickly retrieve all the knowledge captured in an organization.

As organizations and mission grow and evolve, more data is made available, and technologies change. There is an increasing loss of ability to understand and recall information available across the organization. These rapid changes combined with increasing expectations for data-driven decision support results in missed opportunities in the data. COLSA provides ML based knowledge management solutions that address these issues and intelligently assist SMEs with their analysis.

ENHANCED SIGNALS ANALYSIS

Adaptable, Automated, and Containerized Signal Analysis Systems.

Signals analysis systems help protect people and assets but are costly, require high levels of subject matter expertise, can be extremely difficult to keep mission effective, and typically require down-time or delays for humans to perform analysis. COLSA's ML - enhanced signals analysis solutions helps customers solve challenges related to increasing complexities of modern, dynamic signal processing environments such as those used in the analysis of satellite communications and radio, optical, and acoustic signals.

SCIENTIFIC MACHINE LEARNING

Combining Machine Learning methods and traditional scientific modeling.

Scientific Machine Learning (SciML) brings together machine learning methodologies with more traditional scientific modeling procedures. Researchers and analysts face challenging problems while investigating complex systems. These systems can be biological or physical and often deal with time intensive calculations across large data-sets. These systems present exciting opportunities for data scientists to apply machine learning technologies and discover new system solutions.