

Advanced Software Technologies

matricinnovates.com

MATRIC offers Advanced Software Technologies to provide customers with unique offerings to specifically meet their needs. Our employees have the expertise to provide our clients with the speed necessary to compete in today's market. Our capabilities are large enough to deliver diverse market offerings, but we remain small enough to know that our success is defined through partnering with our customers and truly knowing and exceeding their needs. We additionally anticipate market needs and develop, design and deploy our own proprietary packages that bring value to a broader customer base. In either circumstance, we remain focused on our customer and deliver market driven innovation.

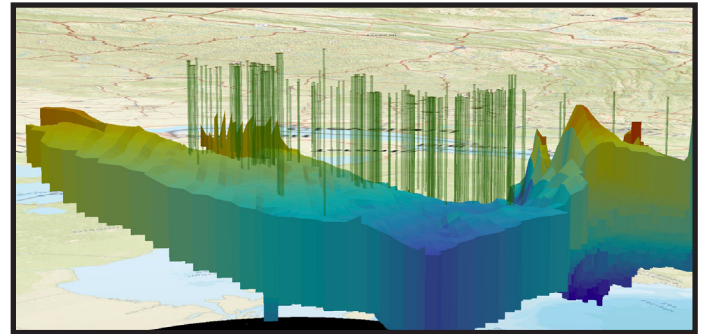
Core Competencies Include:

- GIS
- BIG DATA
- ENTERPRISE WEB DEVELOPMENT
- MODELING & SIMULATION
- ARTIFICIAL INTELLIGENCE
- HIGH PERFORMANCE COMPUTING
- MOBILE
- INTERACTIVE 2D/3D/VR

GIS:

Focused on providing data coordination and analysis capabilities utilizing Geographic Information Systems (GIS) to provide a platform and framework to collect, integrate, analyze, and disseminate data—turning data into **actionable knowledge**. This approach provides:

- Standards based interoperability with existing systems and technology
- Improved collaboration and communication across intelligence, command, control, and response teams
- Increased ability to analyze and respond to events as they unfold by using a single, common view of operations
- Improved situational awareness for analysts and decision makers



Key GIS components include:

- ESRI ArcGIS 10 platform (ArcGIS Server, ArcInfo, ArcCatalog)
- ESRI ArcGIS APIs for JavaScript for the latest HTML5 applications, and ArcGIS API for Flex for legacy Adobe Flex map applications
- Extensions: Spatial Analyst, Network Analyst, Data Interoperability, 3D Analyst
- Open source GeoServer and GeoNode application development
- MATRIC is an ESRI Business Partner through the ESRI Developer Program

Big Data:

MATRIC has expertise developing Big Data applications ranging from creation of recommendation engines based on full text document analysis, web cataloging, geospatial data mining, graph theory, and image analysis. We have an emphasis on Spark based application development with prior expertise developing MapReduce based applications. We leverage machine learning libraries within Spark, ESRI GIS libraries for Hadoop, and a suite of open source document parsing and natural language processing libraries to create applications that provide meaningful value to our customers.

Enterprise Web Development:

MATRIC prides itself on making innovation “web accessible.” Our team has developed numerous enterprise web applications for domains including simulation, geospatial visualization, data analytics and server-side job monitoring. MATRIC utilizes the latest enterprise web frameworks and databases to develop applications that scale from desktop to mobile devices to ensure that our customers can access their data, whether they are in the office or on the go.

Modeling and Simulation:

Focused on developing modeling and simulation capabilities by combining geographic information systems with gaming technologies to fuse real world data with next generation interactive immersive environments. This allows MATRIC to provide unique operational tools, experiential training environments and “what if” scenario planning.

Key components include:

- Interactive and immersive 3D environments
- GIS data, analysis and geoprocessing services integration
- Parallel computing
- Artificial Intelligence

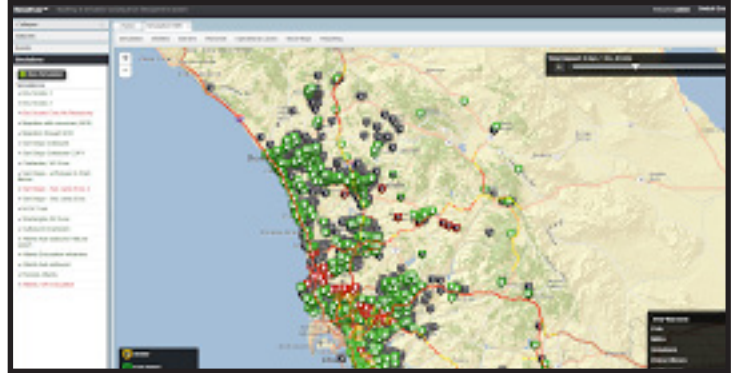
Artificial Intelligence:

Focused on developing serious gaming software platforms that utilize intelligent agents for behavioral modeling. Applications range from medical patient centered communication intelligent avatars that simulate interpersonal communication to analyzing consequences of mass evacuation decisions.

High Performance Computing:

Focused on understanding the relationships between server hardware, operating systems, runtime performance and load balancing for execution of computational tasks. The MATRIC team has experience designing mission critical server architectures where we consider performance vs scalability by comparing non-virtualized server configurations vs virtualized configurations (i.e., VMware). We have extensive

experience testing for optimal virtualized server configurations with respect to ESRI ArcGIS Server 10. Our team has worked closely with ESRI server architects and we have conducted detailed performance testing and tuning to maximize runtime performance of complex geoprocessing services.



Mobile:

MATRIC has a focus on delivering innovation. We live in a mobile world and believe that we must make applications that support desktop and mobile devices. MATRIC develops responsive web applications that auto-scale from desktop to mobile devices enabling users to access data from virtually any web enabled device that supports HTML5. MATRIC also has experience developing custom, device specific, mobile GIS applications enabling people to collect and share information from the field with other mobile and desktop users. Key mobile platforms and capabilities include iOS (iPhone, iPad), Android, and Windows Mobile/7.

Interactive 3D/VR:

MATRIC has expertise using 3D and virtual reality technologies to help solve technical challenges. Our team develops custom OpenGL and Unity3D based applications for scientific visualization to provide insights into complex data sets. We also have experience with a variety of motion capture, 3D modeling, and animation software tools enabling us to create immersive, character-driven artificial intelligence based avatars for interpersonal communication training applications. We utilize computer graphics as a tool to help us create real world solutions ranging from medical simulation to large scale geospatial data analytics.

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