

Our Data Science & AI Capability

Driving innovation that delivers digital success for our clients.

Businesses need data-based insights to make informed decisions and enact effective digital transformation. Data should be processed and interpreted such that multiple stakeholders can gain deeper visibility into their business operations. Our Data Science and Artificial Intelligence (AI) capability leverages machine learning (ML) and responsible AI solutions to help clients unlock the full value of their data, while enriching customer experience and transforming their digital presence. Based on where our clients are in their data and AI journey, we work closely with them to:

- Process unstructured data and extract valuable insights, ensuring companies can make the best decisions possible.
- Leverage the power of data to predict future outcomes.
- Employ a systematic approach to solve data science challenges.
- Identify anomalies in real time for large datasets.
- Categorize data points for better organization of business information.

Capitalizing on the Power of AI

The potential of AI is immense, and we want to enable our clients across industries to solve complex problems through emerging techniques and technologies, such as:

- **Explainable AI:** A set of tools and frameworks that allows humans to comprehend ML model results while maintaining a high level of prediction accuracy.
- **ML Operations:** An end-to-end machine learning development process built to design and manage ML-powered software that is reproducible, testable, and evolvable.
- **Knowledge Graphs:** Provide structured data and relationships between entities that can be used to improve the accuracy of systems and extend the range of ML capabilities.
- **ML-based solutions on the cloud:** Pretrained, ready-to-use AI models to leverage for business applications and workflows.

How Can Blue Altair Help?

Our approach integrates the full maturity model of scalable analytics, from monitoring operations, to diagnosing cause and effect, to predictive analytics. Our robust processes incorporate automation with cognitive models to develop AI solutions and enhance project delivery.

Blue Altair helps clients build ML models that align with their desired business objectives, and take them from prototype to production.

We develop ML solutions for our clients, not just ML Models. Our approach facilitates:

- User-centric ML solutions aimed at yielding desired business outcomes.
- Pilots to evaluate the viability of the proposed solution and its potential impact, thereby mitigating risk and securing client investments.
- Innovative and comprehensive ML model development by leveraging the research and development at Blue Lab.
- Error analysis and explainability to ensure our ML models are reliable, transparent, and serve the best interests of our clients.
- Integrated and sustainable production-ready ML solutions that are fully operational, scalable, available, and aligned to our clients' business metrics.

Our Data Science and AI capability's focus areas include:

- Big Data Analytics
- Deep Learning
- Explainable AI
- Knowledge Graphs
- Machine Learning and Artificial Intelligence
- Supervised, Unsupervised and Semi-Supervised Learning
- Computer Vision
- Natural Language Processing (NLP)

Technologies supported: Databricks, Azure, GCP, Python, R, AWS, Azure, Tableau &, Neo4j

Our Data Science and AI expertise spans many domains and functions, including:

- **Life Science:** Automation of pharmacovigilance case intake process, prediction models, drug adherence improvements, recommendation systems, and knowledge graphs for clinical research
- **Finance:** Fraud detection, portfolio construction and optimization, information extraction from annual reports, credit scoring
- **Sales and Marketing:** Marketing campaigns, pricing optimization, personalized recommendations
- **Operations:** Forecasting
- **Retail:** Visual search and garment size extraction for e-commerce
- **Analytics:** Querying databases using NLP, commercial healthcare data
- **Manufacturing:** Intelligent automation

Addressing Complex Business Needs

We have helped businesses across industries adopt and execute large- and small-scale data and AI projects. Here's a glimpse of the type of problems we've helped our clients address:

Retail

Challenges

Measure e-commerce clothing dimensions using computer vision. Inaccurate sizes and dimensions between brands lead to a high rate of returns.



Our Solutions

- **Image Processing:** Detected image corners & measured the waist using distance around the corners
- **ML:** Trained a convolutional neural network

Technologies: Python, OpenCV, TensorFlow

Pharma

Challenges

Automate the medical review process to ensure the marketing ad's claims are compliant with the product's medical affairs scientific reference pack.



Our Solutions

- **NLP:** Passed text from marketing document to feature generation orchestration layer
- **ML:** Identified claims, mapped all the claims identified in a marketing document to a matching claim in the scientific reference pack

Technologies: Python, Databricks, Tableau

Pharma

Challenges

Reduce the time taken to:

- Conduct a causal analysis to determine if a particular drug caused unintended adverse effects on patients.
- Generate safety reports which regulators could ask for if they see spikes or cause for concern.



Our Solutions

- Created **rule-based solution** when data lacked labels
- When unstructured data was present, **Word embeddings (ML)** were generated to identify and extract entities, which when extracted were used with business logic to define causality

Technologies: Python, Word Embeddings, Databricks

Analyze anomalies at various cohort levels in the sales trend for prescription drugs across accounts and geographies, so data stewards could make better informed decisions.



- Initial set of scores based on **statistical anomaly detection tests** were generated as Bollinger bands, metric difference, beta difference, or frequency score tests
- **Supervised models** were trained on an initial set of labels by taking scores from previous steps as features

Technologies: Python, Azure, Databricks, Tableau

Our Partnerships

To serve the diverse needs of organizations in a rapidly changing business environment, we combine our advanced product knowledge and domain expertise with an in-depth understanding of our clients' business objectives. We collaborate with leading technology partners to build an ecosystem that enables us to leverage modular, scalable, production-grade data management across an enterprise.

The Blue Altair Promise

At Blue Altair, we know that businesses require data-based insights to inform their sophisticated company needs. Data is at the core of decision making and insights that affect business operations. Our mission is to drive innovative solutions to keep business strategies ahead of the curve by adopting transformative technologies, streamlining technical capabilities and maximizing ROI. Regardless of project size, we pride ourselves on delivering the best value for your investment. Blue Altair's biggest strength is our combination of integrity with excellence, and that's our commitment to you: results that exceed your expectations and earn your trust for future business needs.



About Blue Altair

Blue Altair is a niche, industry-recognized business and technology consulting firm that assists our clients with digital transformations. We offer Assessment and Strategy, Technology Implementation, and Managed Services in API Management and Integration; Data Management; Digital Application Development; and Data Science and AI. Our Client Success capability ensures a higher-than-industry rate of successfully delivered projects, with a primary focus on program and project management, business analysis, and quality assurance. Blue Labs is our innovation hub, where we use cutting-edge technology to build offerings that deliver accelerators and solutions. Our culture is the heart of our existence, and our core values are the key drivers for our handpicked, top-tier performers.

info@bluealtair.com | www.bluealtair.com

1530 Wilson Blvd., Suite 650
Arlington, Virginia 22209 USA
+1 703 721 7275



United States | India | Australia | Argentina