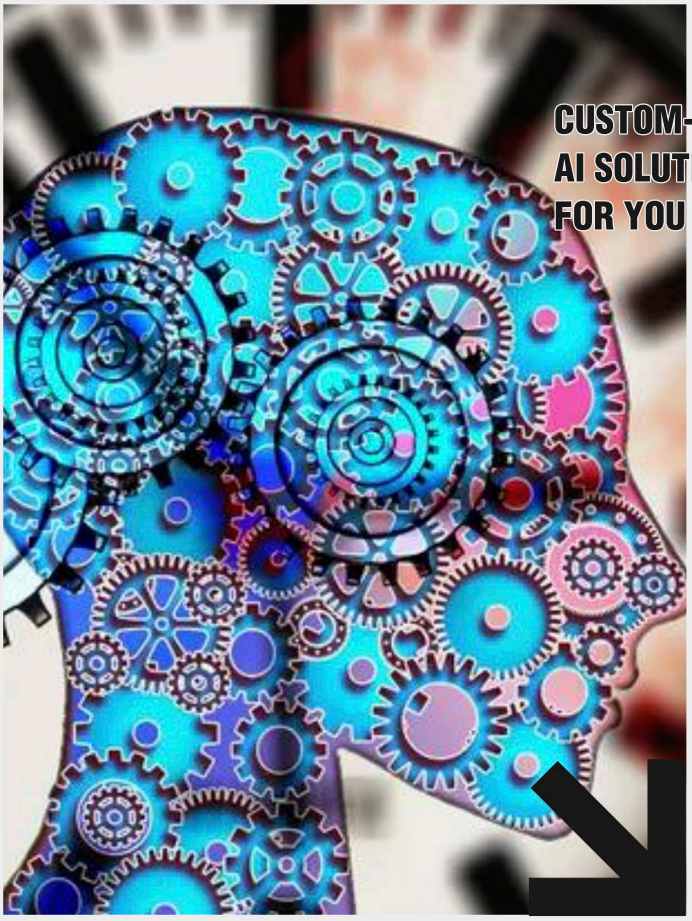
DENOVONET

UNLOCK THE FUTURE TODAY.

DATA DRIVEN INSIGHTS UNLOCK KNOWLEDGE

FUTURE NOW, A BROAD VISTA AWAITS

Join our passion for harnessing the transformative abilities of AI and Machine Learning to convert data into actionable insights and streamline decision-making.



CUSTOM-CRAFTED AI SOLUTIONS FOR YOU

WWW.DENOVONET.COM

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OUR MISSION

Embrace the future now. Welcome to Denovonet, where we love leveraging the power of AI and Machine Learning to transform data into practical insights for efficient decision-making.

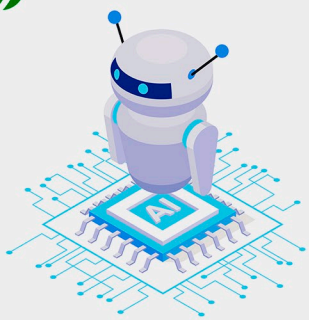
We are very customer-centric and work with them to understand their challenges and help build a strong culture and excellence around data-driven, data-informed, and data-aware strategies to drive efficiency and solve complex problems for the growth and advancement of client operations. Denovonet is fully committed to steering a new era of innovation, productivity, and profitability.

We tailor our solutions to your specific needs, ensuring they integrate seamlessly into your business with a proven track record of delivering tangible results in the form of increased efficiency, improved decision process, and ROI.

DENOVONET TEAM

Our team boasts an exceptional track record of delivering top-tier work with blue-chip industry leaders such as Ericsson, Nokia, Expedia, Amazon, Teradata, Nvidia, Microsoft, McKinsey, Bank of Montreal, GSK, Deutsche Bank, and more. Our rich team experience collaborating with these renowned organizations reflects our commitment to excellence and our ability to meet the highest standards of innovation, performance, and reliability. Our team is proud to have contributed to their success and is eager to bring this expertise to the challenges and opportunities ahead.

Our teams are on a mission to lead businesses into the data-driven future. Founded by a team of AI enthusiasts, we have highly skilled data scientists and machine learning engineers, AI researchers, and software developers all dedicated to shaping business strategies by leveraging data-driven solutions. They have deep knowledge of algorithms, predictive analytics, statistics, data engineering, model training, and deployment. The team has profound academic and industry knowledge to empower businesses with data-driven intelligence, enabling them to thrive in an ever-evolving digital landscape.



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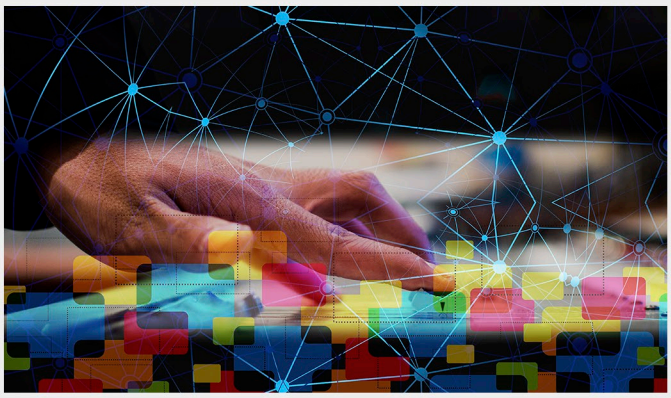
OUR EXPERTISE AND SERVICES

Data-driven expertise in the areas of AI and ML involves a wide range of skills and knowledge. Our team of professionals are experts in creating, training, and deploying intelligent systems and algorithms. Here is the list of our key areas of expertise and services:

Data Analysis and Exploration

We uncover hidden patterns and trends to guide your decision-making process by cleaning and transforming data and applying statistical analysis to understand data patterns.



Custom AI Solutions

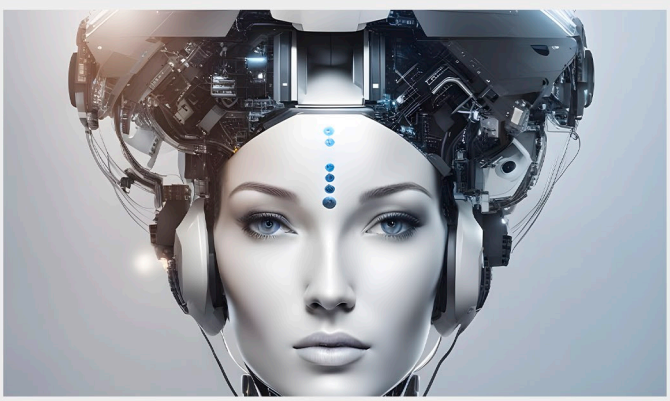
We understand that one size doesn't fit all. Our solutions are customized to align with your core business goals and challenges. We stay ahead of the curve in AI/ML advancements, providing you with the latest and most effective solutions.

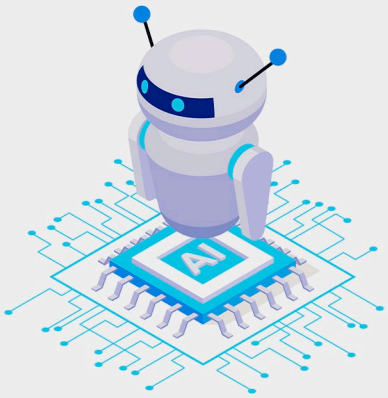
Predictive Analytics

Stay ahead of the competition using our predictive models to forecast future trends and outcomes. Also, work on time series analysis for predicting time-dependent data.

Data Visualizations

Make data-backed decisions through our visualizations that render complex information for easy understanding leading to smarter, more considered choices.





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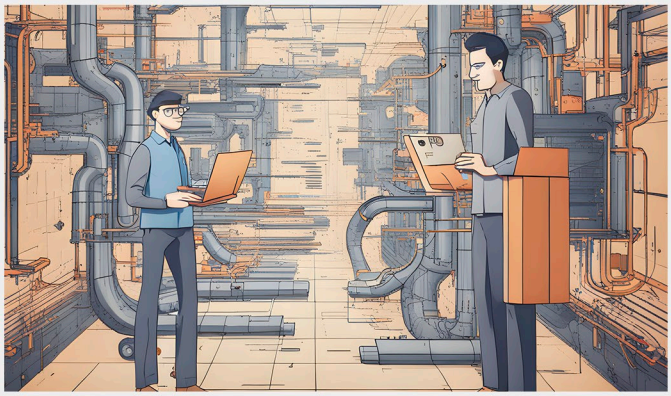
Natural Language Processing

Text analysis for sentimental analysis, text classification, and entity recognition. Chatbot and virtual assistant development.

Data Governance and Compliance

Establishing data governance frameworks and ensuring compliance with data privacy regulations (GDPR, HIPAA, etc.)



Data Analysis and Exploration

We uncover hidden patterns and trends to guide your decision-making process by cleaning and transforming data and applying statistical analysis to understand data patterns.

Data Integration and Architecture

Our experts will help you build scalable data pipelines, data warehousing, and data lake design.

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Proof of Concept (POC) Development

Rapid prototyping and POC development to validate AI concepts before full-scale implementation.

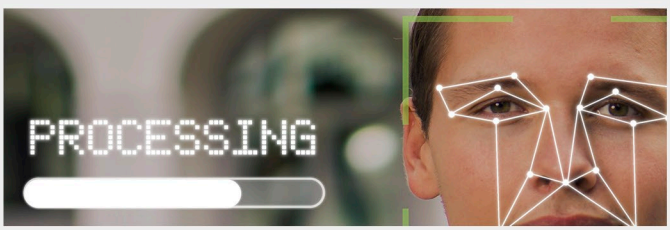
AI-ML Technology Capability

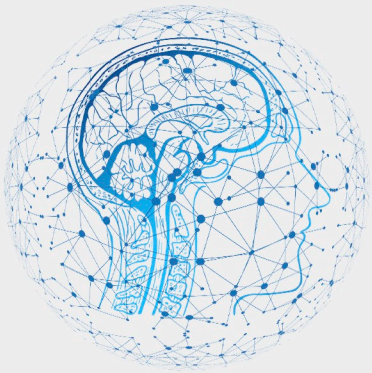
Our data scientists and engineers are leaders in the field, able to craft data strategies tailored to client business goals harnessing the power of ML algorithms and methodologies to automate and optimize processes using the most advanced tools, technologies, and frameworks.

We extensively work with AI-ML frameworks, such as TensorFlow and PyTorch, vital for developing machine learning models, and providing libraries and tools for deep learning and data analysis. Big data tools like Hadoop and Apache Spark enable the processing and analysis of large datasets, offering efficiency and scalability for data-intensive projects. Cloud platforms including AWS, Azure, and GCP supply the infrastructure, storage, and services necessary for AI-ML deployment, enabling easy scalability and cost-effectiveness. Programming environments like Jupyter Notebooks and Python provide accessible platforms for AI-ML development, experimentation, and making the process more intuitive and collaborative for developers and data scientists.

Privacy and Data Protection

Denovonet believes data security is fundamental to the ethical and responsible use of AI-ML technologies. We are extremely conscious of safeguarding individual privacy, ensuring compliance with laws and regulations, and protecting the company's intellectual property and reputation. Our teams are trained on data governance frameworks and ensure compliance with data privacy regulations (GDPR, HIPAA, etc.).





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Ethical Use of AI-ML Technologies

Denovonet is fully committed to ethical use of AI-ML by ensuring that these technologies are developed, deployed, and maintained with fairness, transparency, accountability, and respect for privacy. It requires a commitment to avoiding biases, protecting data, and considering the social and moral implications of AI-ML applications to promote positive and responsible outcomes for individuals and society as a whole.

OUR SOLUTIONS

CRIMEPREDICT - PREDICTING CRIMINAL HOTSPOTS AND TYPE OF CRIME

Using the historical crime dataset and Machine Learning Models we have developed a crime prediction application to forecast where and when future crimes are likely to occur, law enforcement can then focus resources on these areas to deter crime. We are able to analyze patterns and trends in crime that may evade human analysis. There is continuous improvement in predictability as the data and models are refined. We considered two crime datasets of different cities, employing similar techniques for data preprocessing, splitting, feature selection, model training, and hyper-parameter tuning, with some variations in feature engineering specific to each dataset.

RESULTS

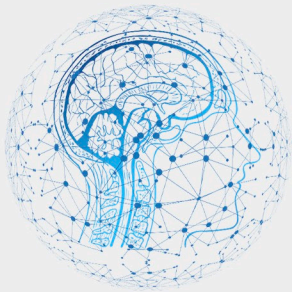
DATASET 1

01
Size of the Dataset
72,211

02
Prediction Accuracy (All)
91%

03
Training Accuracy
96%

04
Test Accuracy
70%



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DATASET 2

01
Size of the Dataset
307,484

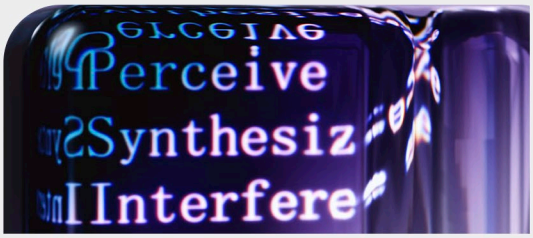
02
Prediction Accuracy (All)
85%

03
Training Accuracy
92%

04
Test Accuracy
67%

The two crime prediction datasets, Dataset 1 and Dataset 2, differ significantly in terms of model performance and feature composition. Dataset 1 exhibits higher training accuracy (96%) and superior generalization with a test accuracy of 70%, while Dataset 2 achieves 92% in training accuracy and 67% in test accuracy. Dataset 1 includes a wide range of demographic and temporal attributes, making it suitable for general crime prediction, while Dataset 2 emphasizes location-based features, making it more suitable for urban crime prediction. We enhanced our model's performance by engineering new features, tuning and optimizing hyperparameters, with Random Forest as the best-performing algorithm. This led to a 70% accuracy on unseen data in dataset 1, a significant improvement compared to the baseline of mathematically best 33% (randomly choosing from one of the three target variables - theft, violence or other).

In summary, this versatile solution is highly effective with other crime datasets, and a larger, richer dataset typically leads to improved model performance due to data and feature dependencies.



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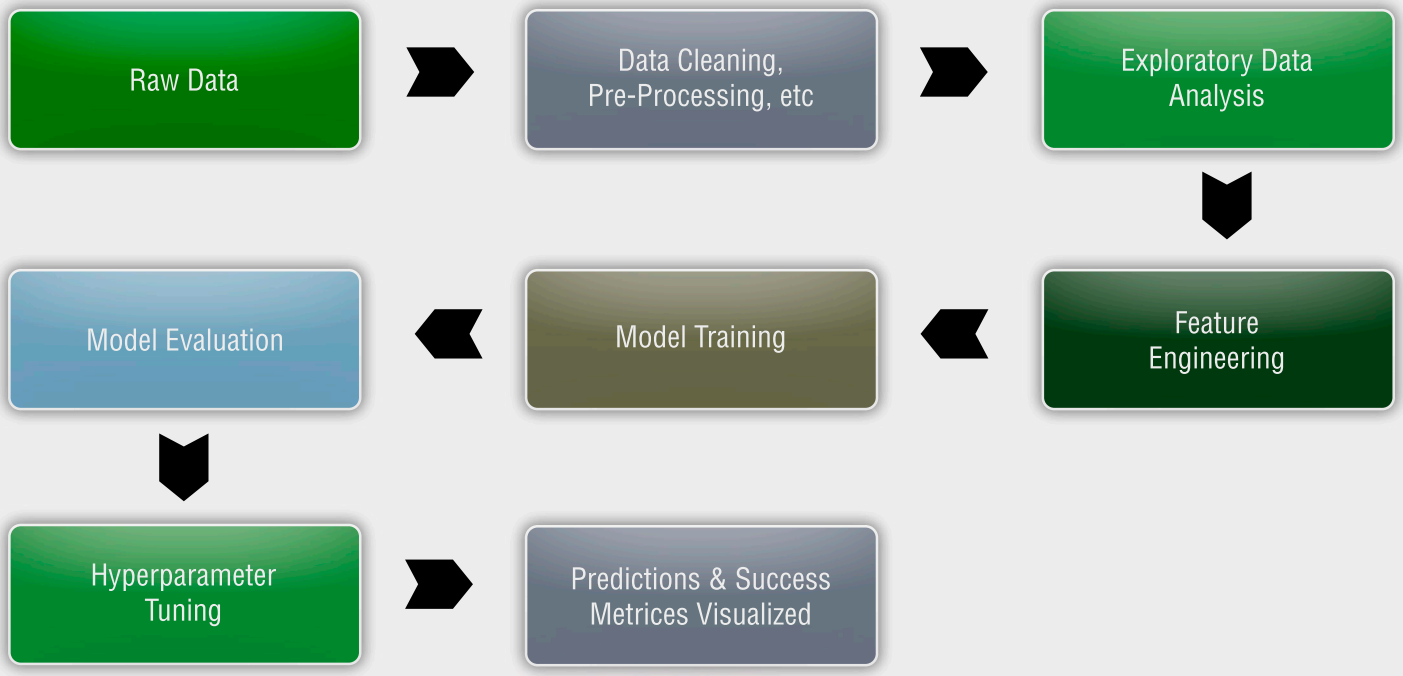
The entire engineering and data modeling process is depicted in this diagram:



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