

Securing Critical Infrastructures In The Financial Sector

Predictive Analytics for Cybersecurity and Finance



Predictive Analytics

Predictive Analytics is a powerful new approach that uses Data Mining, Statistics and Machine Learning to identify, based on historical data, the likelihood of future incidents before they impact customers and end users.

By using PA, IT and Financial organizations can deliver seamless customer experiences that meet changing customer behavior and business demands.

Business models needing Predictive Analytics

Detecting fraud: combine multiple analytics methods to improve pattern detection and prevent criminal behavior

Cybersecurity: to use high-performance behavioral analytics to examine all actions on a network in real time to spot abnormalities that may indicate fraud, zero-day vulnerabilities and advanced persistent threats



Data challenges



DATA IS EVERYWHERE



Four big data challenges in finance

Regulatory requirements: personal data is under stringent regulatory requirements

Data security: hackers + advanced threats, data governance measures are crucial to mitigate risks associated with the financial services industry

Data quality: finance companies want to do more than just store their data, they want to use it

Data silos: financial data comes from many sources like employee documents, emails, enterprise applications, and more







DATA IS EVERYWHERE

texts, images audio, videos



Customer information

Financial transactions

Product and service purchase histories

Customer journeys Marketing campaigns

Service inquiries

Market feeds

Social media+IoT streams

Software logs

Emails+SMS+ newer sources

Combined with business models, this data provides enterprises with opportunities to gain additional insight and value







Predictive Analytics workflow

ACCESS AND EXPLORE DATA

PREPROCESS DATA

DEVELOP PREDICTIVE MODELS

INTEGRATE ANALYTICS
WITH SYSTEMS

Files



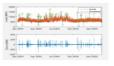
Databases



Sensors



Working with Messy Data



Data Reduction/ Transformation



Feature Extraction



Model Creation e.g. Machine Learning



Parameter Optimization



Model Validation



Desktop Apps



Enterprise Scale Systems

MATLAB Excel Java C/C++.exe NET.dll Python

Embedded Devices and Hardware





Thank you for your kind attention

For More Information:

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