

TODOS 1 | 20 AÑOS

# CLOUD KNIME

OUR JOURNEY TO MACHINE LEARNING WITH A PURPOSE

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VP DATA & ANALYTICS

- About Todo1
- Why Knime...?
- Use case summary
- Knime + Cloud Journey = Results
- Challenges and next steps

- Mission to humanize the interaction between customers and their financial institutions through our Digital Banking Multichannel solution
- Born from DNA of leading Latam Banks and operating for 20+ years
- 500+ Employees in Latam and US
- Processing 5+ Billion transactions per year for 13+ million customers
- Relatively new to the Cloud and Machine Learning landscapes

- One platform “to rule them all”
- REST API
- Self-documented
- Sales processed center on our needs first
- Price

- Transactional fraud mitigation in the digital interactions between [financial] institutions and their customers
- Typical digital interactions include: Login, password change, personal information update, transfers and all types of payments, etc.
- Profiler leverages on a wide array of machine learning models using customer's behavior, device information, fraud patterns and context to provide real-time decision capabilities to fight fraud
- Can run integrated with Todo1's other solutions or standalone
- Fully hosted and maintained by Todo1

- Significant transactional/behavioral/device FRAUD data is hard to get
- Feature engineering is tough
- Real-time (< 100ms) response is also hard to manage
- Sheer volume makes it even more complex (i.e. > 300 txns per sec.)
- Down time is not an option
- Scalable to accommodate wide array of institutions

- Started working with Knime in AWS: fast deployment, easy to test and scale.
- Benchmarking was key to understand limitations and optimize
- Seamlessly moved to Azure and reoptimized in light of real-time data
- Running Load balancer / 4 Knime servers / Rabbit MQ / 2x Executors

- System in production in the Cloud and fully operational for the past 3 months managing 650+ million transactions with NO down-time
- A Bank with 8+ million customers, peaks of 200+ transactions per second with overall improvement of +100% in detection rate at the same false positive rate vs market leader.
- A Bank with 2+ million customers, peaks of 100+ txns per sec. with overall improvement of 50% to 100% in detection rate at the same false positive rate vs market leader.
- Round-trip median time approx. 100ms
- No re-coding of mobile or web apps on either bank was needed.

- Optimize infrastructure cost (instances)
- Accommodate challenger models in production
- Improve run-time performance (proprietary nodes)
- New use cases
- Evangelize others in the organization

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# THANK YOU

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