

COVER STORY



New Innovations in Image-based  
AI Fraud Detection Technology



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**F**raudulent activities encompass a wide range of categories including money laundering, cybersecurity threats, fraudulent insurance claims,

identity theft, tax evasions, and, most prevalently in the past few years – check fraud. Check fraud is a persistent form of fraud that has forced the banking industry to continue to reevaluate its fraud processes and technologies.

In order to overcome the increase in check fraud, organizations are building layers of defense, combining data analytics, real-time fraud detection, and image forensic technologies built on AI and deep learning.

Given the surge in counterfeit, forged, and altered checks, innovation in check fraud prevention has become a major necessity. One such company offering outstanding services for check fraud prevention is OrboGraph.

**OrboGraph**, established in 1995, provides solutions to increase banks' and financial institution's ability to detect check fraud. This is part of OrboGraph's overall mission to help financial institutions, lockbox providers, and service bureaus to automate checking to process for back office, front counter (teller/branch), and self-service deposit channels.

### Dual Lines of Business with a Focused Banking Strategy

OrboGraph has two main lines of business: check processing and fraud detection for the banking industry, and healthcare electrification for revenue cycle management in the healthcare industry.

For the banking industry, OrboGraph delivers its solutions via its platform—OrboAnywhere. Within OrboAnywhere, there are six modules: Anywhere Recognition, Anywhere Fraud, Anywhere Validate, Anywhere Payee, Anywhere Positive Pay, and Anywhere Compliance. Each module serves a specific purpose to meet the needs of its banking partners: whether it's check processing automation, general deposit risk, AML risk mitigation, or fraud detection. For example, combining Anywhere Fraud with the Anywhere Validate and Anywhere Payee modules enables banks to use image forensics for the detection of deposit fraud on transit checks, a capability very few organizations have deployed today.

Utilizing its OrbNet AI Innovation Lab as a development hub, OrboGraph has modernized its solutions by operationalizing AI and deep learning. The new OrboGraph OrbNet AI technology now delivers check automation rates of 99% with accuracy levels of 99.5% and above. OrbNet



Forensic AI increases fraud prevention rates to 95% on targeted use cases. It is inherently the same core technology that enables healthcare partners to streamline back-end operations/revenue cycle management (RCM) functions such as an explanation of benefits (EOB) processing as well as correspondence letter automation.

OrboGraph's OrbNet Forensic AI technologies leverage a combination of image analysis, forensic AI, machine learning, and transactional-analysis approaches.

Examples of image forensics include CSV-AI (check

stock validation), ASV-AI (automated signature verification), and Check Style Verification and Amount Discrepancy, all applied to images of checks.

Fraud uses cases can look very different when comparing the attributes of an on-us fraud vs. a fraudulent deposited item. OrboGraph has created a document called the Check Fraud Perpetrator Profile Summary which maps how image forensic technologies are applied to detect specific use cases of fraudulent items.

### The Clients of OrboGraph

*Payments & Banking Industry:* OrboGraph is well-known in the banking industry, serving over 4,000 financial institutions and corporations in automation of the deposit process for paper-originated negotiable items (checks, money orders, preauthorized drafts, etc.) as well as in the field of check fraud detection. The company works with banks and financial institutions on a direct basis, or through its strong network of business partners and alliance partners which represent service bureaus, payment processors, and check processing application companies.

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The firm has designed its solutions to be complementary to existing platforms. This allows for deployment through multiple IT and operating environments including on-premise, virtual hardware configurations (VM), as well as deployment in various hosted cloud environments. Such systems can support the needs of business partners and help in the direct integration of engagements in a much superior manner.

*Payments & Banking Industry:* OrboGraph processes billions of checks and internal tickets per year across a wide range of Omnichannel workflows, including centralized proof of deposit, teller capture, branch capture, regional processing centers, retail remittance, wholesale lockbox, service bureaus, image exchange,

remote deposit devices, Mobile RDC, ATMs, check cashers, and point-of-sale devices.

OrboGraph's Fraud solutions – Anywhere Fraud, Anywhere Validate, Anywhere Payee – are deployed in banks of all sizes, from top 10 banks in asset size to community banks and credit unions.

*Healthcare Industry:* OrboGraph is a trusted partner in the healthcare industry, providing electronic technologies to revenue cycle companies, clearinghouses, billers, medical lockbox providers, and healthcare providers/hospitals/systems to streamline and improve the revenue cycle through its OrbNet AI technology.

Through the electronification process, pdf and paper-

**“A multi-layered approach to fraud, integrating AI technologies, is needed to stop fraudulent activity.”**

based EOBs, correspondence letters, and patient payments are converted into electronic output to automate cash posting of receivables into patient management systems and hospital information systems. Additional modules reconcile payments and deliver advanced denial intelligence to companies looking to reduce denied claims and improve receivables.

OrboGraph's OrboAccess solutions are deployed in healthcare organizations of all sizes, from large revenue cycle companies large bank medical lockbox providers to hospital systems, healthcare providers, and physician practices.

### **A Dedicated Team of Employees**

OrboGraph consists of a group of incredibly dedicated employees with unmatched expertise in the industry. Many of their development and support teams have ten plus years of experience, while management experience ranges from ten to twenty-five years.

The company is led by General Manager Barry Cohen. Mr. Cohen, is responsible for defining business direction, initiating growth activities, and managing all aspects of customer engagement. He is a veteran of OrboGraph's parent Company, Orbotech, since 1994, and came to OrboGraph in 2007 after five successful years as President of Orbotech, Inc. As Co-President, he is dedicated to maintaining the Company's uncompromising commitment to organizational excellence and providing customer value while meeting and exceeding partners' and customers' expectations.

Mr. Cohen knows this goal can only be accomplished with a group of dedicated team members to ensure customer success:

“You would be hard-pressed to find a better group in the industry. Each team member brings years of experience, a different perspective, and a different personality with all the same mindset: ensuring customer success. From the top executives to our team members ensuring that business continues to operate, we work as one entity with the goal of helping our customers achieve their goals.”

Joe J. Gregory, Vice President of Marketing at OrboGraph, started his journey at OrboGraph in 1998 and is the longest-tenured employee at OrboGraph U.S. Mr. Gregory has been working in the check processing industry for over 25 years and serves as a mentor to the



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product teams while driving the strategic product direction for the company by tackling market initiatives in check recognition, fraud detection, and healthcare payments.

Stewart Levine, VP of Client Services and Compliance Officer leads the client services team based in the US.

“With a majority of our clients operating in the US, it is important that when we are working with a client – whether doing API integration work or addressing a support ticket – that we are available during their times of operation.”

OrboGraph's renowned Client Services group provides customer support 365 days a year to thousands of field installations and many system integrators and business partners in check processing and healthcare payment automation. With expert know-how in integration, system optimization, and project management, OrboGraph customer support – working together with our closely

connected R&D team – enables their clients to meet even the most demanding efficiency and quality requirements.

### The Necessity of R&D

The OrbNet AI Innovation Lab provides the foundation for continual innovation. This area is critical to the company's success as it looks to grow and diversify.

OrboGraph launched its OrbNet AI Innovation Lab in 2019 to enable working directly with clients to innovate, develop, and test its newest AI technologies. This allows the company to connect with clients and understand their needs while empowering OrboGraph to stay on top of the newest trends. The results from the OrbNet AI Innovation Lab have been exceptional, yielding the development of OrbNet AI and OrbNet Forensic AI technologies, as well as providing a vehicle for large clients to test OrboGraph software in a proof-of-concept environment.

Avikam Baltzan, Chief Technology Officer, oversees the OrbNet AI Innovation Lab and process for developing new underlying technologies. His expertise in machine vision and image analysis provided the technical foundation for the continual transformation of OrboGraph technology.

### Technology and Values Differentiate the Company

Nothing is more important to OrboGraph than delivering value to clients. However, company values are of equal importance to the entire organization.

OrboGraph's technology differentiators and values are featured on their website, and each client will attest to OrboGraph employees embodying them.

*Innovation:* “Our continued investment in our technologies to meet and exceed our partners/clients' expectations.” OrboGraph's continued commitment to improving its current technologies and developing new ones are major reasons why clients choose to partner with OrboGraph.

*Thought Leadership:* “We fully immerse ourselves in both the banking and healthcare industries, communicating and collaborating with experts in their fields to provide our partners and the industries with first-hand research and trends.” Knowledge is key to OrboGraph's success. Staying on top of new trends, routinely interacting and communicating with clients, and collaborating with industry experts enables OrboGraph to be a thought leader in its industries.

*Expertise:* “To be a leader in the banking and healthcare industries, we continue to improve our knowledge in both.” To be an expert, you must never stop obtaining knowledge. OrboGraph encourages its team members to be subject matter experts – whether it's a client services team member being an expert in integrating their solution, or a marketing team member who is expert at communicating to OrboGraph's client base.

# OrbNet Forensic AI Fraud Detection



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*Quality:* “From the quality of our technologies to the service we provide our partners, we push to meet and exceed the expectations.” With client expectations at an all-time high, the solutions and services a company provides must meet or exceed these expectations to ensure continued partnership.

*Relationships:* “We understand that we cannot do it alone. We cultivate relationships with industry experts, associations, and our partners to provide the best technologies to meet their needs.” OrboGraph emphasizes building relationships within and outside the company. It cultivates relationships with industry experts, associations, and partners. Building relationships with clients assures that technological services provided by the firm will be top-notch, relevant, and reliable.

### The Future of Check Fraud

During a candid conversation with Mr. Gregory, we asked the following:

- Why would a business entity allocate additional investment into the area of check fraud detection?

Considering all the flashy new payment modalities which are available to financial institutions, corporate clients, as well as consumers, I would boil it down to “perseverance” combined with loss prevention.

Basically, there are still too many gaps in the process.

Check usage continues to be resilient, however, so are the fraudsters and bad actors. The crackdown on credit card fraud with EMV chips redirected many fraudsters back into check fraud. This event drove fraud attempts and losses to new levels involving checks as highlighted by the ABA Deposit Account Fraud Survey available at [www.aba.com/news-research/research-analysis/deposit-account-fraud-survey-report](http://www.aba.com/news-research/research-analysis/deposit-account-fraud-survey-report).


Also, there is not a “correlation” between check volume and check fraud attempts. We don't see check fraud declining just because volumes are declining. In fact, it's an inverse relationship now, more fraudsters are equating to more fraud per dollar spend using checks.

In 2020, we completed our own study ([www.orbograph.com/orbograph-survey-indicates-increase-in-check-fraud-attempts-and-losses-in-2020](http://www.orbograph.com/orbograph-survey-indicates-increase-in-check-fraud-attempts-and-losses-in-2020)). It showed similar trends continue.

But one might ask how a fraudster can still perpetrate check fraud in this day and age?

- Regulations and check clearing rules still provide a fraudster with a window of opportunity to have access to funds.
- Analytics-based systems don't identify nor detect the artifacts within check fraud, i.e., counterfeit stocks, forged signatures, and altered amounts, and incorrect payees. You need a prescreening forensic approach.
- Banks shifted focus to other payment prevention, i.e., real-time payments.
- Account take-overs allow for both on-us and deposit fraud opportunities.
- Business email compromise can use checks as part of a fraud scheme.

So as part of an enterprise strategy, banks need to be diligent on check fraud. Otherwise, what's going to be next? It's already happening, where cross-channel fraud many times utilizes the check as a vehicle for deposit or cash.

We have not yet attained diminishing returns in our investments in check fraud. 

# OrbNet Forensic AI