



# HFS Hot Vendor: Infinia ML

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# Introduction

The HFS Hot Vendors are an exclusive group of emerging players, each with a differentiated value proposition for the HFS OneOffice or HFS OneEcosystem. HFS analysts speak with numerous exciting startups and emerging players.

We designate a select group as HFS Hot Vendors based on their offerings' distinctiveness, ecosystem robustness, client impact, financial position, and the impact in our OneOffice and/or OneEcosystem Frameworks. The HFS Hot Vendors may not (at the time of writing) have the scale and size to be featured in our Top 10 reports, but they have the vision and strategy to impact and disrupt the market.



Author: Reetika Fleming

Infinia ML, an emerging machine learning (ML) specialist, is on a mission to link ML development to measurable business impact for its clients. With roots from Duke University, Infinia ML has made Durham, North Carolina its home to spearhead machine learning innovation in a region famous for its research universities. While the company is new, its experience, talent, and IP has earned it the HfS Hot Vendor tag.

Working across the machine learning development lifecycle, Infinia ML engages with clients to first prepare their data for ML consumption, develop advanced machine learning algorithms, and, finally, deploy solutions integrated into client environments. Data preparation for ML is often the biggest hurdle for enterprises; clients appreciate Infinia ML's guidance through this process to refine training data and test model efficiencies iteratively. Clearing the data hurdle frees the company to apply its core machine learning abilities to previously impossible data challenges.

Infinia ML is led by a distinguished leadership team with diverse and critical experience from the worlds of ML academic research, entrepreneurship, and business. Keeping Infinia ML's ties to Duke is Chief Scientist Lawrence Carin, vice provost of research at Duke, who has spent decades researching machine learning for various applications. The company's CEO is Robbie Allen, an experienced entrepreneur in the artificial intelligence field, who built his last company Automated Insights from the ground up. Mike Salvino serves as the executive chairman at Infinia ML, bringing business leadership and guidance from his former role as Group Chief Executive of Accenture Operations.

The Infinia ML team features 7 Ph.D.s and has produced 31 patents, 11 books, and over 550 published papers on machine learning. One example of its focus on research and IP creation is the "Research Wednesday" program: every Wednesday is dedicated not to client work, but instead to ongoing research in the machine learning space. Clients attest to the company's dedication to research and innovation. A client in our research pointed out that they solely rely on Infinia ML's "expertise on the bleeding edge of machine learning." Examples of ML projects include:

- Natural language processing enabling greater scale in contract analysis for global legal services firm Axiom
- Improving the scope and speed of pay benchmarking for Korn Ferry, a global leader in talent management, by automatically matching clients' pay data with Korn Ferry's benchmark data
- Automatically identifying nerves in an ultrasound image produced by a handheld device from United Imaging Systems (Beijing), making it easier for doctors to perform surgery
- Detecting a cancer signal from a blood test rather than a high-risk biopsy for the company Oncocell
- Scanning images for anomalies that humans miss – helping prevent security breaches and product defects before they happen

## HFS' take

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Infinia ML's mission to spur machine learning talent creation on the east coast is a noble and logical one, especially considering the acute ML talent gap in the United States. Duke University, University of North Carolina (UNC), and North Carolina State will provide a steady stream of future machine learning talent. Infinia ML's ongoing academic engagements will ensure that curriculum development reflects its advancements in practical and commercial applications of ML. The next step for the company will be further building out its library of reusable ML assets and homing in on possible industry-specific

specializations as it gains more experience and grows its team. Overall, Infinia ML brings a fresh, no-nonsense approach to how enterprises need to think about ML development. The leadership team fiercely guides clients away from conducting mere "science experiments", and instead refocuses efforts around building business value—growing revenues and driving down costs. This is what will ultimately differentiate the company and help it build further mindshare and credibility with its growing clientele.

## Vendor factsheet

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- Founded in 2017
- Executives include CEO Robbie Allen, Chief Scientist Lawrence Carin, Ph.D., and Executive Chairman Mike Salvino
- Venture funding of \$10M by Carrick Capital Partners
- Based out of Raleigh-Durham, North Carolina
- Team of 20+ and growing rapidly
- Winner of the 2018 AI Breakthrough Award for Best Machine Learning Company

## Solution portfolio

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### Services

The Infinia ML Library is a collection of the team's acquired techniques, technologies, and experiences that enable it to deliver business impact. The Library's expanding catalog of over 65 entries including capabilities in natural language processing, recommendation engines, object detection, 3D image modelling, and anomaly detection. The company's work spans the three pillars of:

- **Data preparation:** Ensures client data is ready for machine learning, assessing whether it is properly accessible, sizable, useable, understandable, and maintainable
- **ML development:** Applying scientific knowledge of machine learning to client business challenges, by designing algorithms, building models and testing results
- **ML deployment:** Integrating solutions with clients' systems

## Industry coverage

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Infinia ML is growing its client roster in industries ranging from healthcare to manufacturing, and business functions including human resources and legal services.

## Partnerships

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- **University of North Carolina** – Chapel Hill: CEO Robbie Allen is teaching an ML course at the UNC Kenan-Flagler Business School. In addition, the company itself has forged a partnership with the business school, the cornerstone of which will be a machine learning symposium for business and academic leaders.
- **Duke University:** Infinia ML has partnered with Duke's Pratt School of Engineering. Company leaders will lecture on machine learning and work with Duke startups to implement machine learning in their businesses.

Authors: Hridika Biswas, Reetika Fleming

Founded in 2017, Infinia ML aims high with the ambitious goal of helping businesses redefine the possibilities of human potential through advanced machine learning. Now it has pivoted to focus on using machine learning for document processing to enable clients to automate otherwise labor-intensive document reading and classification.

Infinia ML's algorithms help automate complex processes and enhance employee efficiency. The Infinia team's accomplishments include more than 600 published papers, 37 granted patents, 11 books, and 12 PhDs. Clients trust Infinia ML with sensitive data on critical projects be they enterprise, government, or tech innovators such as DXC Technology, Lenovo, ISG, PowerSecure, and RTI International.

Infinia, headquartered in Durham, North Carolina, uses machine learning to process documents and unstructured text-based data. The company turns human-readable content into machine-readable data and combines that with automation to deliver operations insight with a modular technology platform with bespoke configuration and deployment.

Infinia ML uses its IDP (intelligent document processing) tool to automate reading lengthy documents. The platform understands words and their meaning within a page's visual structure and layout. The platform organizes key information and helps identify trends and predict outcomes. It helps uncover insights, such as identifying supply chain trends from customer requests, predicting the patients most likely to return to the hospital, and assessing the quality of a proposal or contract. The platform can read data from a plethora of file types and enables real-time data input.

Infinia ML's offering for IDP includes a pre-packaged set of components and assets the vendor customizes for each client engagement. The tool is based on pre-created algorithms deployed from a library of proprietary technology and open-source packages and deployed through common APIs. Every client is then allowed custom configuration to serve their specific IDP use cases, speeding up document processing and delivering curated custom insights based on business requirements. Infinia ML's IDP tool allows flexibility, speed, accuracy, and customization while enabling continuous improvement via real-time updates.

Customers tell us they value the way Infinia ML has taken up the documentation issues of different domains and delivered to customer needs in strict timelines.

One customer, SignalPath, brings together experienced researchers, expert clinicians, technology experts, and designers to develop solutions to many challenges facing modern clinical trial management. The company used humans to read lengthy and dense protocol documents to extract key clinical trial data, instructions, timing, and workflow information from 100-plus-page PDFs. The humans had to extract the data from those PDFs and then translate it into a digital format. Infinia ML's IDP solution worked with SignalPath to reduce digitization time and errors by automating the extraction and translation process, including footnotes and complex tables. Once data is extracted, the platform processes blocks of text and data from charts and routes the information depending on context. Trained employees can now focus on final checks to ensure accuracy.

An Infinia customer from a legal services background said the IDP solution helped eliminate a significant amount of manual data entry. Employee time had been consumed in the labor-intensive processes of interpreting and filing thousands of documents delivered to them in multiple formats and going through multiple iterations. Infinia consumed the data held across multiple versions and found and associated matches against strict deadlines.

Another Infinia client, a not-for-profit providing research and technical support, said it enjoyed a

great partnership with the company and respected Infinia's expert technical team for its willingness to learn and work together to streamline and digitize its business development processes around proposal documents.

Customers say that while Infinia is great at engaging with technical audiences, it could use more analytical storytelling capabilities and improve its ability to relate to business audiences, especially senior stakeholders such as board members. That's not unusual among data science-led businesses.

## HFS' take

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Infinia was named a Hot Vendor for a year from Q2 2018. The changes it has made since then make it worthy of being named an HFS One Office Hot Vendor for another year. In 2018 it differentiated itself as one of the emerging machine learning specialists. At the end of 2021, it has gone a step further into specialized machine learning by focusing on IDP. Extracting content from unstructured data sources such as documents is a here-and-now challenge and need for many enterprise clients today, especially in paper-heavy industries such as banking, insurance, and healthcare. Infinia ML's approach of pre-packaging some of its core IP while also undertaking last-mile customization through a targeted solution seems to be hitting the right spot for its clients, as the vendor

already has about a dozen clients just focusing on IDP.

When it enables collaboration across silos, automation is a key element of the OneOffice. Infinia's focus on IDP aims to marry insights with decreasing human intervention and errors.

We expect 2022 to be a big year for IDP, but Infinia will have to fight for its spot alongside the hyperscalers, IDP product companies, and large service integrators with proprietary IDP solutions in play with enterprise clients. While Infinia has paved its way to achieving proficiency in machine learning via IDP, it is still working on using it better to generate insights for clients.

## Vendor factsheet

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- **Founded:** 2017
- **Headquartered:** Durham, North Carolina, USA
- **Key personnel:** Rob Delaney, CEO; Lawrence Carin, Chief Scientist; Robbie Allen, Senior Advisor
- **Number of employees:** 40+
- **Number of customers:** 12
- **Funding source:** Venture funding of \$10 million from Carrick Capital Partners

### Domains

- BPO (business process outsourcing), legal and compliance, technology operations

### Industries

- Healthcare and life sciences

### Solution portfolio

- IDP, Predictions and Insights

### Partnerships

- DXC, ISG Automation



# About HFS

## Insight. Inspiration. Impact.

HFS is a unique analyst organization that combines deep visionary expertise with rapid demand side analysis of the Global 2000. Its outlook for the future is admired across the global technology and business operations industries.

Its analysts are respected for their no-nonsense insights based on demand side data and engagements with industry practitioners.

HFS Research introduced the world to terms such as “RPA” (Robotic Process Automation) in 2012 and more recently, the HFS OneOffice™. The HFS mission is to provide visionary insight into the major innovations impacting business operations such as Automation, Artificial Intelligence, Blockchain, Internet of Things, Digital Business Models and Smart Analytics.

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