



**Media Contacts:**

Keri Couples, vRad  
(952) 595-1496  
[keri.couples@vrad.com](mailto:keri.couples@vrad.com)

Arjun Dutt, for MetaMind, Inc.  
(650) 600-3855  
[arjun@metamind.io](mailto:arjun@metamind.io)

**FOR IMMEDIATE RELEASE**

**vRad and MetaMind Collaborate on Deep Learning Powered Workflows to Help Radiologists Accelerate Identification of Life-threatening Abnormalities**

vRad Files Patent for Integrating Deep Learning in a Telemedicine Platform to Improve Patient Outcomes with Higher Diagnostic Efficiency and Quality

MetaMind's State-of-the-art Deep Learning Algorithms Tap into Millions of Anonymized vRad Patient Studies

**MINNEAPOLIS, MN and PALO ALTO, CALIF.—(June 16, 2015)** vRad (Virtual Radiologic), the nation's leading telemedicine company and radiology practice, and MetaMind, Inc., a provider of state-of-the-art Artificial Intelligence (AI) solutions powered by "deep learning," announced a partnership to improve the speed, accuracy and quality of radiology diagnostics for a series of potentially life-threatening conditions, the first of which will be intracranial hemorrhaging (IH). IH (blood leaking inside the brain) requires immediate medical treatment, otherwise it quickly leads to increased pressure in the brain, and potentially damaged brain tissue or death.

Anonymized data from vRad's radiology patient care benchmarking platform (RPC<sup>SM</sup> Index) of 30 million+ patient studies is already being used to train MetaMind's AI software to search and "red flag" images that potentially show IH. Once an image is "red flagged," the patient's study can be automatically escalated within the radiologist's reading queue. It can also be assigned to the most appropriately trained/experienced radiologist (e.g., a neuroradiologist), so they can immediately direct their attention to the image, accurately diagnose the condition, and relay any critical findings back to the attending physician as quickly as possible. The partners have committed to implementing this process into vRad's telemedicine workflow in 2015.

vRad has also filed a patent for the training and use of "deep learning" algorithms and models in a telemedicine platform. This is vRad's latest innovation to be added to its portfolio of 15 patents covering its telemedicine image processing and workflow systems. The company processes more than 1.3 billion radiology images for over 5 million patients annually.

“The current healthcare environment demands that providers find new methods to demonstrate long-term and strategic value in the image-enabled enterprise,” said Frost & Sullivan Industry Principal Nadim Daher. “Analytical data and insight can improve productivity, resource management, and quality control. The partnership of IT and radiology expertise is an important strategy to develop viable tools for physicians to improve patient care.”

MetaMind’s patent-pending deep-learning platform trains computer systems with high volume, complex information that includes text, images and other data inputs such as diagnostic radiology reports. It comprises a set of techniques that do not require domain experts to program knowledge into algorithms. Instead, these techniques build models from labeled example inputs and learn by observing data. MetaMind’s algorithms and models provide state-of-the-art performance for both computer vision and natural language processing applications.

“We chose to partner with MetaMind because its ground-breaking deep learning software solves complex data problems and provides insight with which to make clinical decisions with greater speed and accuracy. Our collaboration is striking in its ability to empower vRad’s radiologists to spend more time being doctors and working with referring physicians to help improve patient outcomes,” said Benjamin W. Strong, MD (ABR, ABIM), Chief Medical Officer of vRad. “Training MetaMind’s software to ‘red flag’ potential abnormalities would increase the speed at which a radiologist can get ‘eyes on images’ and make a diagnosis of IH or ensure no IH is present. With IH, time is the enemy, and accurate diagnostic information radiologists would provide five or ten minutes faster to referring physicians benefits patients and their families. This kind of innovative partnership—with radiologists and machine-learning experts—will move the industry forward and continue its focus on empowering radiologists to deliver high-quality patient care.”

“When applying deep learning to identifying IH and other life-threatening conditions, it is important to have a sufficient sample size to ensure appropriate learning and modelling,” said Richard Socher, MetaMind Founder and CEO. “vRad provides the substantial data set needed, as well as the clinical expertise to thoroughly ‘teach’ our algorithms and build the proper models to deliver highly accurate results in seconds.”

### **About MetaMind**

MetaMind provides simple solutions for a broad range of complex business problems by leveraging AI to enable automated predictions and smarter decisions with more speed and accuracy than ever before. The company’s breakthrough AI technology, based on Founder and CEO Richard Socher’s deep learning research, outperforms many other methods on several public computer vision and natural language processing benchmarks, and provides a mathematical model for building machine intelligence that could be adapted for almost any discipline. MetaMind was founded in 2014 and is based in Palo Alto, Calif. Company investors include Vinod Khosla, founder of Khosla Ventures, and Marc Benioff, CEO of Salesforce. For

more information, please visit [www.metamind.io/health](http://www.metamind.io/health). Follow us on Twitter at <https://twitter.com/metamindio>.

### **About vRad**

vRad (Virtual Radiologic) is a leading outsourced radiology physician services and telemedicine company with over 350 U.S. board-certified and eligible physicians, 75% of whom are subspecialty trained. It is an affiliate of [MEDNAX](#), Inc. (NYSE: MD), a national medical group specializing in neonatal, anesthesia, maternal-fetal, pediatric cardiology and other pediatric physicians services.

The company interprets over 5 million patient studies annually—and processes over 1.3 billion images on the world’s biggest and most advanced teleradiology PACS—for its 2,100+ client hospital, health system and radiology group facilities. A winner of [Frost & Sullivan’s Visionary Innovation Award](#) for Medical Imaging Analytics (North America) and a leader in imaging analytics, vRad provides access to the only radiology patient care benchmarking platform (vRad RPC<sup>SM</sup> Index) with 31 million+ normalized imaging studies, growing at 400,000 per month. vRad’s clinical expertise and evidence-based insight help clients make better decisions for the health of their patients and their imaging services. For more information about the company, please visit [www.vrad.com](http://www.vrad.com). Follow us on [Twitter](#), [Facebook](#) and [LinkedIn](#).

###