# Datadog AI Research Launches New Open-Weights AI Foundation Model and Observability Benchmark

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*Toto—an open-weights, zero-shot, time series foundation model—and BOOM, the largest public benchmark of observability metrics, are the firs launches from Datadog AI Research*

**NEW YORK** -- Datadog, Inc. (NASDAQ: DDOG), the monitoring and security platform for cloud applications, today unveiled the first two launches from Datadog AI Research, which is tackling cutting-edge research challenges that are firmly rooted in real-world problems within cloud observability and security. Datadog AI Research is actively contributing to the broader research community by publishing findings and open-sourcing model artifacts.

The initial releases from Datadog AI Research are Toto and BOOM. Toto is the first open-source foundation model focused on observability. Time series foundation models (TSFMs) are to time series what LLMs are to language. A type of AI model trained on massive datasets that can be adapted to a wide range of downstream tasks, foundation models learn general patterns and can be fine-tuned for various applications.

Toto is an open-weights model that is trained with observability data sourced exclusively from Datadog's own internal telemetry metrics, which achieves state-of-the-art performance by a wide margin compared to all other existing TSFMs. Its zero-shot forecasting will enable instant anomaly detection and capacity planning with no per-series tuning, which is critical when monitoring billions of ephemeral time series. While existing TSFMs struggle with telemetry data, Toto heightens performance—not only for observability data but for time series forecasting more broadly—and is freely available.

BOOM introduces a time series benchmark that focuses specifically on observability metrics, which contain their own challenging and unique characteristics compared to other typical time series. It instantly becomes the largest public benchmark of observability metrics, providing 350 million observations across 2,807 real-world multivariate series to capture the scale, sparsity, spikes and cold-start issues unique to production telemetry. BOOM is an actively maintained resource for the community and will allow researchers to advance their forecasting models.

"Today marks the launch of our first open-source foundation model and we expect to continuously release AI projects through Datadog AI Research," said Ameet Talwalkar, Chief Scientist at Datadog. "The lab offers an exciting opportunity to develop research ideas and build prototypes that will contribute to the community. We will also collaborate with applied AI teams to build tools that will solve customer problems and transform how engineers work."

Collaboration between Datadog AI Research and Datadog's product and engineering teams will help translate research advances, like Toto and BOOM, into tangible benefits for Datadog customers.

Toto and BOOM are immediately downloadable under a permissive license and Datadog invites the research and the OSS communities to push observability forecasting forward with these open-source projects.

To learn more about Datadog AI Research, please visit: https://www.datadoghq.com/blog/ai/toto-boom-unleashed/.

**About Datadog**

Datadog is the observability and security platform for cloud applications. Our SaaS platform integrates and automates infrastructure monitoring, application performance monitoring, log management, user experience monitoring, cloud security and many other capabilities to provide unified, real-time observability and security for our customers' entire technology stack. Datadog is used by organizations of all sizes and across a wide range of industries to enable digital transformation and cloud migration, drive collaboration among development, operations, security and business teams, accelerate time to market for applications, reduce time to problem resolution, secure applications and infrastructure, understand user behavior and track key business metrics.

**Forward-Looking Statements**

This press release may include certain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended including statements on the benefits of new products and features. These forward-looking statements reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to us and on assumptions we have made. Actual results may differ materially from those described in the forward-looking statements and are subject to a variety of assumptions, uncertainties, risks and factors that are beyond our control, including those risks detailed under the caption "Risk Factors" and elsewhere in our Securities and Exchange Commission filings and reports, including the Quarterly Report on Form 10-K filed with the Securities and Exchange Commission on May 6, 2025, as well as future filings and reports by us. Except as required by law, we undertake no duty or obligation to update any forward-looking statements contained in this release as a result of new information, future events, changes in expectations or otherwise.

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