



**Additional information for press release no. 005
“Millions of euros of funding provided by the federal
government and the State of Berlin for AI beacon in the
German capital”**

The Pillars of AI Research

The Berlin Institute for the Foundations of Learning and Data conducts research into machine learning and Big Data as well as the interfaces between these two areas

Berlin is the only federal state to house two national AI research centers funded by the Federal Ministry of Research and Education: The Berlin Big Data Center (BBDC) and the Berlin Center for Machine Learning (BZML). They have now been expanded and merged to create the new Berlin Institute for the Foundations of Learning and Data (BIFOLD), providing Berlin with a technology center with a strong intentional reputation. The aim is to both examine the interface between machine learning and Big Data and to advance and develop these twin pillars of AI research. BIFOLD is jointly run by Professor Dr. Volker Markl, head of the Chair of Database Systems and Information Management at TU Berlin and Professor Dr. Klaus-Robert Müller, head of the Chair of Machine Learning at TU Berlin. In addition to the 21.6 million euros already provided to fund the two centers, the Federal Ministry of Research and Education is providing a further 18.2 million euros until 2022 for BIFOLD. The State of Berlin is also making 3.5 million euros available to establish up to eight AI professorships.

“Machine learning and Big Data management are mutually dependent;” says Volker Markl. “An algorithm is only as good as the underlying data collection. Available data volumes are growing exponentially. It is essential for the future that we develop new, automatically scalable technologies capable of organizing ever growing amounts of data to derive, by means of intelligent processes, reliable information for data-driven decisions. One possible specific project would be a more efficient processing of data streams to allow algorithms to learn to make complex decisions on the basis of small data volumes thus achieving enormous savings in energy.

“To be able to sufficiently advance the theoretical and algorithmic foundations for Big Data, we require more “bilingual” researchers; in other words researchers capable of speaking the languages of both machine learning and Big Data”, Klaus-Robert Müller explains. “We are also working together in BIFOLD with a number of researchers from all areas of natural sciences (medicine, physics, chemistry, biology) as well as digital humanities researchers. And by incorporating a research training group into the institute, we are looking to train a new generation of researchers.

BIFOLD will focus on five main areas:

- The theoretical foundations and scientific methods of Big Data management and machine learning

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- The management of data science processes and systems
- Data architecture and data technologies
- The explainability of artificial intelligence
- Technologies and tools for new applications in science and industry

Three further departments are planned in addition to the research center: a training department to coordinate the integrated research training group, junior research groups and the fast-track master's/PhD program; a department for public relations and scientific cooperation to raise awareness of the institute's work and develop networks between science, business, politics and society; and a department for innovation and technology transfer between science and business, which will also operate a data and analysis platform to provide business, researchers and individuals direct access to AI applications.

“In addition to conducting top level international research into the theoretical foundations of data management and machine learning and their interfaces, our objectives are also to achieve a much simpler and better usability of technologies for science and business, develop new scientific-technical applications, make genuinely new contributions to research, and in general create open platforms for a broad exchange between science and technology,” says Klaus-Robert Müller, explaining the goals of the project.

By doing so, the institute is making a new and essential contribution to science and research in Berlin. “AI is an important area for the future and BIFOLD's technical and interdisciplinary set-up enables it to strengthen Germany's long-term competitiveness in terms of research and business in this area,” adds Volker Markl.

BBDC

Funding period: 10/14 – 09/18

Extended: 10/18 – 09/21

Increased funding: 12/19 – 12/22

www.bbdc.berlin

BZML:

Funding period: 08/18 – 12/22

Increased funding: 12/19 – 12/22

www.bzml.de

BIFOLD:

www.bifold.berlin

Further information can be obtained from:

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