Dean Wampler, Ph.D

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Technical Leadership for Generative AI and Data-Intensive

My expertise:

- **Engineering Leadership**: I have led several engineering teams in IBM Research, for the AI Alliance, the Accelerated Discovery platform (not public), and WatsonX Platform Engineering. At Lightbend, I conceived the Lightbend Fast Data Platform and formed the team that built it. I seek the best solutions with customers and partners, such as AI Alliance members.
- **Artificial Intelligence and Machine Learning:** Engineering and project leadership for Generative AI, "classic" machine learning, and reinforcement learning using a variety of technologies at IBM Research, Anyscale, Domino Data Lab, and Lightbend.
- **Big Data and Streaming Architectures ("Fast Data"):** Ray, Spark, Kafka, Kubernetes/OpenShift, Hadoop, etc. Many of my conference talks and recent writings have discussed the convergence of streaming and ML.
- **Programming Technology:** Functional Programming, Scala, Python, Java, and other languages and tools.
- **Software Development Lifecycle and Team Leadership:** Distributed team building, process improvement, and mentoring. Former XP/Agile Software Development consultant.
- **Developer Relations and Evangelism:** Conference speaking, webinars, training, writing, and analyst briefing for AI at the AI Alliance, ML/AI and reinforcement learning with Ray at Anyscale and Fast data at Lightbend.

Experience - see my full resume for all details

IBM Head of Technology, the AI Alliance IBM Research USA November, 2023 - Present	I am IBM's technical lead for the AI Alliance, a global consortium of companies, non-profits, and research institutions committed to open, accessible Generative AI models and tools. The Alliance promotes openness across the spectrum of AI: models, like Meta's Llama family and those available through Hugging Face, open data sets, tools and techniques for safety, pretraining, inference, tuning, and application patterns like RAG. Also, the Alliance promotes basic research and education, including research grants and GPU resources. AI Mentor at 1871 - Advising startups on effective use of AI
Engineering Director, watsonx Platform Engineering and **Accelerated Discovery Platform** IBM Research USA January 2022 - November 2023	I led the engineering team building watsonx.ai core components for AI model inference and tuning (fine-tuning and prompt-tuning), and application development patterns. Previously, I built the engineering team and all engineering processes to productize cloud-native services for *Accelerated Discovery Platform,* which leveraged IBM Research technologies in Quantum Computing, Artificial Intelligence, Generative Modeling, Simulation, and Hybrid Cloud for applications such as molecular discovery (e.g., pharmaceuticals and material science) and digital-health. I was also a member of the Joint Steering Committee and I was the lead for the Infrastructure Committee for the IBM-Cleveland Clinic Foundation partnership. I worked with CCF technical leadership and research teams on implementing joint *Statements of Work* (SOWs) using Accelerated Discovery Platform and IBM Cloud.

Principal Software Engineer Domino Data Lab USA September 2020 - January 2022	I reported to the *Chief Product and Technology Officer*. I worked on projects to improve the architecture and quality of Domino products for Data Science and MLOps. I also worked on forward-looking technical initiatives. During this time I completed the third edition of Programming Scala, Third Edition, cowrote the NVIDIA/Manning report Hardware > Software > Process (with Paco Nathan), and contributed a chapter to O'Reilly Media's 97 Things Every Data Engineer Should Know.
Head of Developer Relations Anyscale USA November 2019 - September 2020	Anyscale is a startup developing services around the OSS project Ray, a system for distributing Python applications from a laptop to a cluster with relative ease. Ray was started at UC Berkeley to enable researchers in artificial intelligence to more easily develop cutting-edge tools for reinforcement learning and hyperparameter tuning, where cluster-wide execution of work is essential. I ran all facets of developer relations and early Marketing efforts.
VP, Fast Data Engineering formerly **Architect for Big Data Applications and Services, Office of the CTO** Lightbend International November 2013 - October 2019	Created Lightbend Fast Data Platform, then led the engineering team that built it. • I conceived the product and technical vision for a next generation, *fast-data* (streaming) platform with integrated support for application development, using Apache Kafka, Apache Spark, and the Lightbend Reactive Platform, running on Mesos DC/OS and Kubernetes.
Consulting, Financial Services, Startups, and Embedded Systems Roles Full Details USA January 1990 - November 2013	Various software engineering and management roles. Consulting engagements through Aspect Research Associates, Object Mentor, and Think Big Analytics, Financial services at DRW Trading Group. Startups: BridgePort Networks, Powerhouse Technology, Mercata, Sequel Technology Corporation, and Technical Arts. Embedded systems: Applied Microsystems and Advanced Technology Laboratories (ATL - medical ultrasound)

Education

Ph.D., Theoretical Physics University of Washington 1989	• Studied rare decay processes in atoms and nuclei • Developed numerical models of these processes using object-based methods and VAX FORTRAN
MS, Theoretical Physics University of Virginia 1985	• Studied the structure of protons and neutrons in atomic nuclei
BS, Physics University of Virginia 1982	• Minor in Mathematics