# Research Staff Member, Artificial Intelligence

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## Your Role and Responsibilities

IBM Research is the innovation engine of IBM. Nearly every game-changing breakthrough in the information technology industry has its roots in an IBM Research lab. It has been a home for creative scientific minds since 1945, when Thomas J. Watson Sr. established the first corporate pure science research lab in the U.S. We are primed to define the future of technology for many years to come specifically around the world of Artificial Intelligence. We believe AI will transform the world in dramatic ways in the coming years – and our Research AI group is advancing the field through our portfolio of research and through collaboration with like-minded institutions including MIT (MIT-IBM Watson Lab - <a href="http://mitibmwatsonailab.mit.edu">http://mitibmwatsonailab.mit.edu</a>) and individuals to push the boundaries of AI faster – for the benefit of industry and society. The MIT-IBM Watson AI Lab is one of the largest long-term university industry AI collaborations to date. The Lab is a place where scientists, professors, and students collaborate to drive the frontiers of AI. If you're interested in working with some of the world's most talented researchers to advance AI, we may have an opportunity for you!

## **Job Description**

We are looking for talented researchers who are as passionate as we are about artificial intelligence, advancing science, and inventing the next generation of intelligent machines. We are hiring researchers in a broad range of areas, including:

- Deep learning, including novel architectures with attention and memory
- Supervised learning, semi-supervised and unsupervised learning, including generative models
- Reinforcement learning
- Meta-learning, learning to learn
- Multi-task learning, transfer learning, few-shot learning, continual/lifelong learning
- Interpretability, fairness, accountability of machine learning models
- Brain-inspired machine learning algorithms
- Optimization for AI/ML
- Bayesian learning, graphical models, causal models
- Learning theory
- Computational creativity

As an IBM researcher, you will work on the most cutting-edge, exciting projects and collaborate with top researchers both inside IBM and at our partner universities. Your creativity and innovative problem solving will be essential to the success of our team and the company. We want to bring out the best in you and expect you will do the same for us!

#### Required Technical and Professional Expertise

- Expertise and experience in programming in one or more of these languages: Python, Java, C++, Matlab, R etc.
- Advanced skill level in solving analytical problems using rigorous and quantitative approaches.
- Advanced skill level in creating and applying new algorithms in AI disciplines such as machine learning, NLP, knowledge induction, and machine reasoning
- Experience in clearly and effectively communicating your research ideas in peerreviewed technical conferences such as NIPS, ICML, ICLR, IJCAI, AAAI, AISTATS, ACL, CVPR, KDD or similar

### Preferred Technical and Professional Expertise

- PhD in machine learning, artificial intelligence, computer science, applied mathematics, signal processing, statistics, physics or related technical fields
- Advanced skill level with standard machine learning techniques and frameworks
- Experience analyzing large scale data from a variety of sources
- Design, validation, and characterization of algorithms and/or systems
- Experience with machine learning tools and frameworks including but not limited to: TensorFlow, PyTorch, Torch, Caffe, etc.
- Contributions to open source projects

#### **About Business Unit**

With more than 3,000 researchers in 12 labs located across six continents, IBM Research brings together hundreds of researchers who possess unparalleled industry expertise to address some of the world's most challenging problems. Join us as we do pioneering work in areas such as cognitive computing, augmented intelligence, quantum computing, and blockchain, to name a few.