IBM Research AI Residency Program

Introduction

IBM's Brain-Inspired Computing team at IBM Research - Almaden has built a first-of-a-kind modular, scalable, non-von Neumann, ultra-low power, cognitive computing architecture (TrueNorth) and associated end-to-end software ecosystem. We are building state-of-the-art digital neuromorphic chips and systems (large-scale and mobile) to solve real-time sensory problems.

Your Role and Responsibilities

IBM Research AI Residency Program:

The IBM Research AI Residency program is a 13-month program that provides opportunity for scientists, engineers, domain experts and entrepreneurs to conduct innovative research and development on important and emerging topics in Artificial Intelligence. The program aims at creating and investigating novel approaches in AI that progress capabilities towards significant technical and real world challenges. AI Residents will work closely with IBM Research scientists and are expected to fully complete a project within the 12-month residency. The results of the project may include publications in top-AI conferences and journals, development of prototypes demonstrating important new AI functionality, and fielding of working AI systems.

Trust in AI

Causal Modeling, Fairness, Explainability, Robustness, Transparency, AI Ethics

Natural Language Processing and Understanding

Question & Answering, Reading Comprehension, Language Embeddings, Dialog, Multi-Lingual NLP

Knowledge & Reasoning

Knowledge/Graph Embeddings, Neuro-Symbolic Reasoning

AI Automation, Scaling, and Management

Automated Data Science, Neural Architecture Search, AutoML, Transfer Learning, Few-Shot/One-Shot/Meta Learning, Active Learning, AI Planning, Parallel and Distributed Learning

AI & Software Engineering

Big Code Analysis and Understanding; Software Life Cycle including modernize, build, debug, test and manage; Software Synthesis including refactoring and automated programming

Human-Centered AI
HCI of AI, Human-AI Collaboration, AI Interaction Models & Modalities, Conversational AI, Novel AI Experiences, Visual AI and Data Visualization

When:
Starting dates as early as September 2020 (AI Residencies are 13-months in duration)

Where:
IBM T. J. Watson Research Center (Yorktown Heights, NY)
IBM Research AI and MIT-IBM Watson AI Lab (Cambridge, MA)
IBM Almaden Research Center (San Jose, CA)

Required Technical and Professional Expertise

- Experience in creating and leveraging AI techniques, such as machine learning, natural language processing, and knowledge and reasoning
- Experience with machine learning tools and frameworks, such as Theano, Tensorflow, Caffe, Torch
- Expertise and experience in programming in one or more of these languages: Java, Python, C, C++
- Advanced skill level in solving analytical problems using rigorous and quantitative approaches

Preferred Technical and Professional Expertise

- Computer Science, Applied Mathematics or related technical fields
- Advanced skill level in creating and leveraging AI techniques, such as machine learning/deep learning, natural language processing, vision, speech, audio, knowledge and reasoning, causal modeling, explanability, fairness, robustness, distributed learning, and HW acceleration.
- Experience communicating your research in technical communities, such as publications in NIPS, CVPR, ICML, ICLR, IJCAI, AAAI, KDD, or similar
- Experience analyzing large scale data from a variety of sources

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