IBM Research - China (CRL) was established in Beijing in September 1995, as one of the eleven IBM research laboratories worldwide. In October 2008, CRL opened a new research facility in Shanghai to provide local partners greater accessibility to IBM research capabilities. CRL has been growing steadily in the past years, and has become one of the most prestigious and well-recognized research institutes in China.

CRL conducts advanced research across multiple disciplines, including Computer Science, Human-Centric Computing and Mathematical Science, and currently is focusing on the technology and innovations on Analytics, Cloud Computing and Internet of Things. The driving demands come from its focus in contributing research advancements to IBM Smarter Planet strategy, especially in application domains on Smart Energy & Utilities, Smarter Supply Chain and Smart City. As a pioneering industry research laboratory, CRL has developed innovative technologies through collaborations with other IBM business units, clients, partners, government and universities. In 2008, CRL was awarded the "Supply Chain Academic Excellence" and the "Global Award for Supply Chain Excellence", the most prestigious awards from the Supply-Chain Management Council.

Going forward, CRL will continue its focus on transforming and advancing the business world with more technology breakthroughs and business model innovations.

IBM Research - China is looking for graduate students who are interested in pursuing a career in research.
Please submit your resume to crlhr@cn.ibm.com.

Please note that all jobs compensate according to the local market and will require work authorization. You will be contacted for next steps, if we determine a strong match.

IBM’s Employment Policy: IBM is committed to creating a diverse environment and is proud to be an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, gender, gender identity or expression, sexual orientation, national origin, genetics, disability, age or veteran status.
Job Title/Research Area:
Research in Information Intelligence and Interaction

Work Location: Beijing or Shanghai

Job Responsibility:
Conduct research in information intelligence and interaction to provide core technologies for IBM’s software services and products, and to solve real business problems. The scope of job responsibilities include: invention of new algorithms, development of prototype systems, publication of technical articles and patents.
Research areas include (but are not limited to): analysis, retrieval, and visualization of text, image, speech, and video information; speech recognition modeling and adaptation; analysis, modeling, and prediction of customers’ social behavior.

Job Requirements:
1. Ph.D. or Master Degree in related disciplines including: Computer Science, Electrical Engineering, Automation and Applied Mathematics, etc.
2. Research experience in one or more of the following areas:
   - Machine Learning
   - Artificial Intelligence
   - Natural Language Processing
   - Information Retrieval and Recommendation
   - Information Visualization
   - Speech Signal Processing
   - Multimedia Information Processing
   - Human Computer Interaction
3. Solid software programming skills and experience
4. Strong English writing ability in technical papers
Job Title/Research Area: Distributed Computing

Work Location: Beijing or Shanghai

Job Responsibility:
Research and develop distributed computing technologies and systems. The expected outcomes are high quality publications and system prototypes. Detailed research topics include:
- Large-scale and distributed system middleware, such as messaging middleware, event processing engine, stream computing middleware, etc.
- Programming model for distributed systems
- Management of distributed system
- Availability, reliability and serviceability research
- Cloud computing platform, Cloud services and Cloud Security

Job Requirements:
Ph.D. or Master degree majored in related disciplines including computer science, software engineering, electronics engineering, automation with the following skills or experience:
- Distributed computing
- Middleware
- High performance computing and highly dependable systems
- Distributed system management
- Middleware and high performance computing
- Architecture design and development of distributed systems
- Good software programming skills and experience in Java or C/C++
- Passionate in deep research with high quality publication record
- Passionate in putting research theory into practice and building system
- Team-work & good Chinese/English communication skills
Job Title/Research Area: Data Management

Work Location: Beijing or Shanghai

Job Responsibility:
Research and develop information and data management technologies and system. The expected outcomes are high quality publications and system prototypes. Detailed research topics include:
- Spatial-temporal data management
- Real-time data management
- Big Data
- Cloud data platform

Job Requirements:
Ph.D. or Master degree majored in related disciplines including computer science, software engineering, electronics engineering and automation, with the following skills or experience:
- Relational Algebra and relational database theory
- Relational database and data warehouse
- NOSQL database (e.g. HBase, MangoDB)
- Analytics of large volume of data (e.g. Map-Reduce)
- Data modeling, data analytics, data mining
- Good mathematical knowledge
- Architecture design and development of data management systems
- Good software programming skills and experience in Java or C/C++
- Passionate in deep research with high quality publication record
- Passionate in putting research theory into practice and building systems
- Team-work & good Chinese/English communication skills
Job Title/Research Area:
Analytics and optimization research in innovational industry applications

Work Location: Beijing, Shanghai

Job Responsibility:
The job offers an opportunity to apply advanced analytics/optimization/simulation technology in key industrial applications (e.g. Energy, Logistics, Transport, Healthcare, Health Management, Electronics, Banking, and Retail etc.), aiming to produce high quality papers and patents, and advanced systems/products/service. The industry domains include:

- Grid: smart grid, grid system optimization, power distribution automation, micro-grid, renewable integration, smart building, energy saving/emission reduction and power asset management.
- Logistic, supply chain management: develop optimization models for improving resource utilization, energy efficiency and customer satisfaction.
- Chemical and petroleum industry: apply analytics/optimization and provide advanced solutions in safety insurance, integrity management and operational optimization.
- Banking/retail, massive data processing, customer behavior modeling, multi-channel transformation and optimization, marketing management.
- Intelligent transportation system: realize traffic pattern analysis, multi-mode transportation system optimization, traffic simulation, operational optimization etc.
- Urban service system: research in water supply/drainage, gas, emergency response, crime investigation management, etc.
- IOT of vehicles (e.g., massive moving object management, mobility pattern mining and analysis, driving behavior analysis), electric automobile technology and telematics infrastructure design.
- Asset monitoring and management system: develop asset deterioration model, condition monitoring, failure detection and prediction model, asset maintenance planning & scheduling model.
- Research and develop system or corresponding application for clinical research analytics, including application scenario design and exploration for healthcare research, clinical data repository storage model design, comparative effectiveness research, clinical evidence generation and evaluation.
- Clinical intelligence and care planning, including application scenario design and exploration for healthcare research, planning & automation design in health management, Artificial Intelligence in healthcare.
Job Requirements:

Researcher

M.S. / Ph.D. degree in Operation Research / Management Science, Cybernetics, Data Mining, Statistics, Artificial Intelligence, Machine Learning, System Engineering, Automation, Industrial Engineering, Computer Science, Software Engineering, Civil Engineering, Petroleum Engineering, Mechanic Engineering, Electrical Engineering, Automotive Engineering, Transport and Transportation, Health Informatics, Clinical Informatics, Bioinformatics and other relevant fields:

Experiences and skills in the following one or more areas:

- Research / development skills in the following areas: statistics and data mining, simulation, optimization, machine learning, artificial intelligence, analytic and optimized information system
- Research / development experience in the following industries: supply chain and logistics management, chemical and petroleum industry, civil engineering, water management, power system (including wind energy and solar power), intelligent transport, e-business, electrical household appliances, healthcare
- Applicant to clinical informatics area should have design and development experience on medical system such as EMR, EHR or HIS, 1+ year experience in a medical bioinformatics company or health informatics company and 1+ years development experience on Java and database
- Expertise in programming and analytics / optimization / simulation skills is a plus
- Knowledge in GIS system / satellite aided navigation system is a plus
- Extensive relevant research experience in asset management, online recommendation system is a plus
Job Title/Research Area:
Research in Computer Architecture and System Software

Work Location: Beijing or Shanghai

Job Responsibility:
Conduct research in computer architecture and system software for IBM system products. The job responsibility includes: building system prototype, developing system software, publishing high quality papers, and applying high-value invention patents.

Research areas include (but are not limited to): computer architecture, programming model, operating system, real-time system design, system and I/O virtualization (including the virtual machine), FPGA, high-performance computing, performance evaluation and optimization.

Job Requirements:
1. Ph.D. or Master Degree in related disciplines including: Computer Science, Electrical Engineering, Automation.
2. Research experience in one or more of the following areas:
   - Computer architecture
   - Operating system
   - Virtualization
   - FPGA
   - Programming Model
   - Compiler
   - High performance computing
3. Solid system and software programming skills and experience
4. Strong English writing ability in technical papers
Job Title/Research Area:
Research in Networking and Wireless

Work Location: Beijing or Shanghai

Job Responsibility:
Conduct research in networking and wireless communication domains for IBM networking related system platform, wireless communication and networking solution for global industries. The job responsibility includes: building system prototype, developing system software and protocol stacks, algorithm research and verification, publishing high quality papers, and applying high-value invention patents. Research areas include (but are not limited to): Next generation wireless communication technologies, wireless system architecture, wireless sensor network, network architecture and techniques, novel protocol for next generation networking, real-time system optimization, embedded system (ARM / PowerPC / FPGA / DSP) and embedded system software, real-time operating system, low power system design, etc.

Job Requirements:
1. Ph.D. or Master Degree in related disciplines including: Computer Science, Electrical Engineering, Automation.
2. Research experience in one or more of the following areas:
   - Next generation wireless technologies
   - Wireless system architecture
   - Wireless sensor network
   - Networking architecture, system and protocols
   - Data Center / Cloud networking
   - Software defined network (OpenFlow) and network virtualization
   - Real-time system design
   - Real-time operating system
   - Embedded system (ARM / PowerPC / FPGA / DSP)
   - Low power system design
3. Solid system and software programming skills and experience
4. Strong English writing ability in technical papers