

FIELDS Program Overview

Participants in the FIELDS program are from science, technology, engineering and math (STEM) disciplines. They should be prepared to undergo computer science and statistics training and perform research in an area involving intense use of data. Opportunities are available for the participants to visit JPL or research labs at the University of California, Riverside (UCR). The FIELDS program includes:

Undergraduate Summer Internships at JPL

Students interns at JPL will be involved in research activities for 10 weeks under the supervision of science staff members. During this time, they will receive free room, board and \$2,000 in financial assistance.

Undergraduate Laboratory Internship at UCR

Student interns performing research in UCR labs during the academic year can receive up to \$3,000.

Graduate Student Fellowships

Graduate Fellows receive up to two years support in fees, stipend and \$10,000 during the summer term. FIELDS Fellows are required to work in data intensive projects and collaborate with a JPL science staff member in addition to their academic advisor.

Master Course on Big Data at UCR

A one year, online Master Course will be developed at UCR to provide training in data science, visualization and its application in science and technology. After completing the course, students will conduct research in a project either at UCR or JPL for data related jobs in industry or academia.

Workshops

The FIELDS program organizes free workshops during the year to familiarize students with Data Science and Visualization, providing them the necessary background to apply for such jobs.

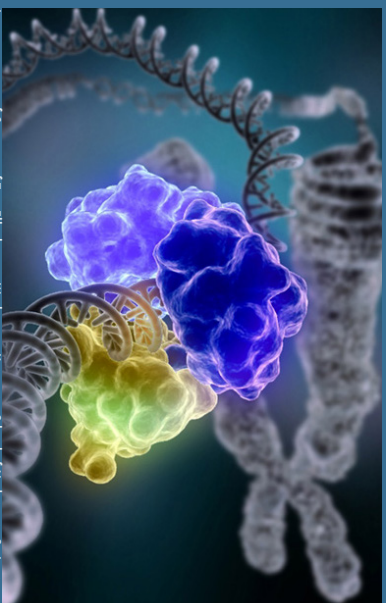


Image courtesy of Courtesy of Tom Ellenberger, Washington University School of Medicine in St. Louis, and Dave Gohara, Saint Louis University School of Medicine.

Funded by the NASA MUREP Institutions Research Opportunity (MIRO) program and partnering with NASA's Jet Propulsion Laboratory (JPL), the FIELDS program funds undergraduate and graduate students, especially underrepresented minorities, in data intensive research to meet NASA's future workforce needs.

A specialization in Big Data analysis and visualizations within your STEM degree produces highly sought after research skills. Data Scientists and Engineers are in very high demand in today's economy. Through this program you will acquire the necessary skills for data intensive jobs.

Contact us:

Prof. Bahram Mobscher (PI)

Reynal Guillen, Ph.D. (Program Mgr)

Physics Bldg. Room 3005

University of California, Riverside

Riverside, CA 92521

Email: reynal.guillen@ucr.edu

Phone: (951) 827-5365

Web: <http://bigdata.ucr.edu>

University of California, Riverside

FIELDS

(Fellowships and Internships in Extremely Large Data Sets)

A program funded by NASA MIRO
(MUREP Institutional Research Opportunity)

Educating the next generation of researchers in big data analytics and visualization.



Image courtesy of NASA.

<http://bigdata.ucr.edu>

Big Data and Visualization

UCR

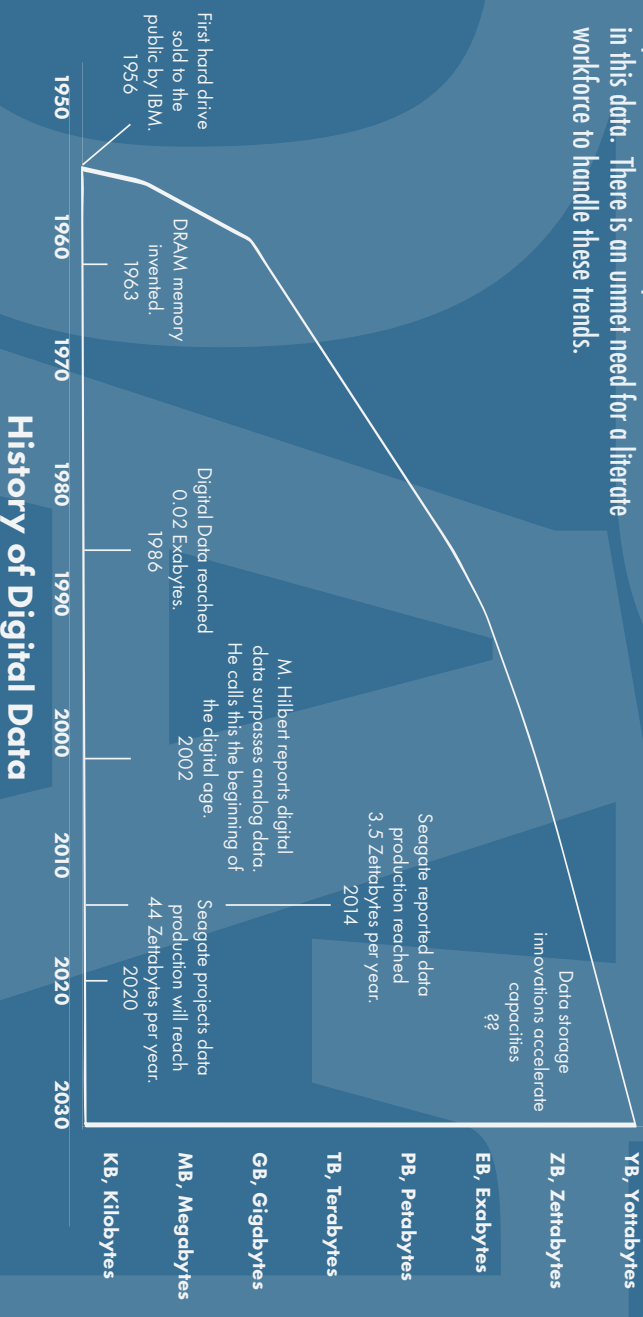
JPL

We are producing an increasingly large amount of structured and unstructured data from the internet, social media, multimedia, communications, sensor networks, machine logs, commercial transactions, business applications and the latest scientific instruments. Yet, less than 1% is analyzed.

Big Data is the general term for data whose volume, velocity and variety challenge available storage and computing capacity. The size of the individual datasets has reached petabyte and exabyte scales and includes many different media formats (e.g. documents, audio, video) while social media and mobile applications need real time streaming across high speed networks. Visualization refers to the meaningful visual representation of ever complex information contained in this data. There is an unmet need for a literate workforce to handle these trends.

The FIELDS program provides education & training to the next generation of scientists and engineers in large-scale data analysis and visualization. UCR's Big Data and Visualization Lab conducts basic research, prototype analysis and data mining for student learning and industrial needs. We develop educational pipelines from high schools to community colleges to universities preparing students for future needs in academia and industry.

By 2018, the United States alone could face a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions. — McKinsey Global Institute.



We partner with NASA's Jet Propulsion Laboratory (JPL), a world leader in research, development and operations of data intensive and data-driven science systems, methodologies and technologies. Undergraduate and graduate students in the FIELDS program conduct research under joint supervision of UCR faculty and JPL science staff.



Image courtesy of NOAA.

Contact us about our FIELDS program opportunities

<http://bigdata.ucr.edu>