Opportunity Title: Data Science Methods, Tools, Techniques and Architectures to Enhance Them
Opportunity Reference Code: IC-17-08

Organization	Office of the Director of National Intelligence
Reference Code	IC-17-08
How to Apply	**Create and release your Profile on Zintellect** – Postdoctoral applicants must create an account and complete a profile in the on-line application system. **Please note: your resume/CV may not exceed 2 pages.**
	Complete your application – Enter the rest of the information required for the IC Postdoc Program Research Opportunity. The application itself contains detailed instructions for each one of these components: availability, citizenship, transcripts, dissertation abstract, publication and presentation plan, and information about your Research Advisor co-applicant.
Application Deadline	3/31/2017 11:59:00 PM Eastern Time Zone
Description	**Research Topic Description, including Problem Statemen**t:

Although data science is considered to be a new and emerging field, the term has been around since the 1960s but modern technology and computing has revolutionized the potential application areas for this field. Data Science is an interdisciplinary field which extract information or intelligence from data. It can be applied to many fields such as biological, chemical, and physical sciences, health care, pharmaceutical sciences, social sciences, business, finance, education, computer security, software engineering, speech and language processing, robotics, and gaming. It uses methods and techniques developed in mathematics, probability and statistics, operations research, computer and information science. These methods include data mining and analysis, pattern recognition, predictive and temporal graph analytics, artificial intelligence, uncertainty modeling, machine and deep network learning, behavioral analysis, data manipulation and compression, and high performance computing.

Data science methods are generally required to process and extract information from "big data", and create visualizations tools to both understand the data and present the new integrated information to the consumer. As the amount of data continues to increase, and the speed at which is becomes available, there is also a need perform research in distributed data science.

Example Approaches:

Given the large and growing field of data science, a successful proposal could:

- Apply a novel data science method, technique, or tool to a defined problem. The technique, tool, or method should extend current data science capabilities;
- Develop and apply new methods for organizing and preprocessing the data prior to analysis;
- Develop and apply capabilities to simultaneously analyze a large number of heterogeneous data sources. Research solutions should include the ability to quickly find correlation and identify outliers; or
- Design computer algorithm development capabilities for data science which will utilize heterogeneous computer architecture and computer hardware. This can include development of architectures and applications to enable real-time decision-making as new data is collected.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Business** (11 👁)
  - **Communications and Graphics Design** (6 👁)
  - **Computer Sciences** (17 👁)
  - **Earth and Geosciences** (23 👁)
  - **Engineering** (27 👁)

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- **Environmental and Marine Sciences** (13 👁)
- **Life Health and Medical Sciences** (47 👁)
- **Mathematics and Statistics** (11 👁)
- **Nanotechnology** (1 👁)
- **Other** (8 👁)
- **Other Physical Sciences** (12 👁)
- **Physics** (16 👁)
- **Social and Behavioral Sciences** (36 👁)