Opportunity Title: Real-time object detection, tracking, and classification plus associated analytic methods
Opportunity Reference Code: IC-18-22

Organization	Office of the Director of National Intelligence (ODNI)
Reference Code	IC-18-22
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.

Additional information about the IC Postdoctoral Research Fellowship Program is available on the program website located at: https://orau.org/icpostdoc/.

If you have questions, send an email to ICPostdoc@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline	3/12/2018 11:58:00 PM Eastern Time Zone
Description	**Research Topic Description, including Problem Statement:**

The US Government (USG) faces data analytic challenges and high among these is the handling of large data from multiple disaggregated sources of which a significant amount of the information is considered sparse or obscure. Specifically, the USG considers non-exquisite sources of information to be sparse aperture data sources and can be applied to imagery, RF signals, or any form of information that is typically ignored from data processing due to the low quality or low resolution of the information. The USG requires statistically sound and justified methods and techniques to automatically assign probability of identification and characterization for items individual and aggregate information as well as probable associated actions and meanings of the information. The USG is interested in establishing, documenting, and instantiating sound statistical approaches relying on a matrix of existing models such as Boolean, Bayesian, and Fuzzy logic. Research is needed to identify dynamic, adaptable, and agile methodologies that meet the USG's need for rapid and dynamic information processing from numerous and heterogeneous large volume data sources.

Example Approaches:

The objective of this project is to develop and explore solutions

to multiple data analytics problems. This could be accomplished by:

- Development of methods to automatically classify and assign probabilities of accuracy to objects in pictures and videos, perhaps combining aspects of distinct methods or proposing new ones to yield optimized results in the analysis of multi-source data from disaggregated and sparse collection systems. Of particular interest, a comparison of newly developed methods to existing methods to articulate the benefits of each.

- Exploration of the utility of Boolean and Bayesian math versus Fuzzy logic rules for the use of multi-source data from disaggregated and sparse aperture collection systems.

Qualifications

Postdoc Eligibility

- U.S. citizens only
- Ph.D. in a relevant field must be completed before beginning the appointment and within five years of the application deadline
- Proposal must be associated with an accredited U.S. university, college, or U.S. government laboratory
- Eligible candidates may only receive one award from the IC Postdoctoral Research Fellowship Program.

Research Advisor Eligibility

- Must be an employee of an accredited U.S. university, college or U.S. government laboratory
- Are not required to be U.S. citizens

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (6 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Other Non-Science & Engineering** (5 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (28 👁)