

## Deep Intermodal Video Analytics (DIVA) Proposers' Day Conference

### SYNOPSIS

The Intelligence Advanced Research Projects Activity (IARPA) will host a Proposers' Day Conference for the DIVA program on July 12, 2016, in anticipation of the release of a new Broad Agency Announcement (BAA) solicitation. The Conference will be held from 9:00 am to 5:00 pm EDT in the Washington, DC metropolitan area. The purpose of the conference will be to provide information on DIVA and the research problems the program aims to address, to address questions from potential proposers and to provide a forum for potential proposers to present their capabilities for teaming opportunities.

This announcement serves as a pre-solicitation notice and is issued solely for information and planning purposes. The Proposers' Day Conference does not constitute a formal solicitation for proposals or proposal abstracts. Conference attendance is voluntary and is not required to propose to future solicitations (if any) associated with this program. IARPA will not provide reimbursement for costs incurred to participate in this conference.

### PROGRAM DESCRIPTION AND GOALS

The DIVA program intends to develop robust automated activity detection for a multi-camera streaming video environment. As an essential aspect of DIVA, activities will be enriched by person and object detection, as well as recognition at multiple levels of granularity. DIVA is anticipated to be a three-phase program. The program will focus on three major thrusts throughout all phases:

- Detection of primitive activities occurring in ground-based video collection; Examples include:
  - Person getting into a vehicle,
  - Person getting out of vehicle,
  - Person carrying object.
- Detection of complex activities, including pre-specified or newly defined activities; Examples:
  - Person being picked up by vehicle,
  - Person abandoning object,
  - Two people exchanging an object,
  - Person carrying a firearm.
- Person and object detection and recognition across multiple overlapping and non-overlapping camera viewpoints.

The focus for phase 1 will be on video collected with the following properties:

- Video collected within the human visible light spectrum;
- Video collected from indoor or outdoor security cameras, either fixed or with rigid motion such as pan-tilt-zoom.

In phases 2 and 3, additional data used will include:

- Video collected from handheld or body worn cameras;

- Video collected from other portions of the electromagnetic spectrum (e.g., infrared). The DIVA program will produce a common framework and software prototype for activity detection, person/object detection and recognition across a multi-camera network. The impact will be the development of tools for forensic analysis, as well as real-time alerting for user-defined threat scenarios.

Collaborative efforts and teaming among potential performers will be encouraged. It is anticipated that teams will be multidisciplinary, and might include expertise in machine learning, deep learning or hierarchical modeling, artificial intelligence, object detection, recognition, person detection and re-identification, person action recognition, video activity detection, tracking across multiple non-overlapping camera viewpoints, 3D reconstruction from video, super-resolution, statistics, probability and mathematics. Performers will not be asked to build a monolithic system for activity detection and tracking across a large camera network. Instead, research will focus on developing a common scalable framework that deploys in an open cloud architecture for activity detection, person/object detection and recognition across overlapping and non-overlapping cameras.

IARPA anticipates that academic institutions and companies from around the world will participate in this program. Researchers will be encouraged to publish their findings in academic journals.

## REGISTRATION INFORMATION

Attendees must register no later than 5 pm EDT July 5, 2016 at <https://eventmanagement.cvent.com/DIVAPD>. Directions to the conference facility and other materials will be available on a full access website. No walk-in registrations will be allowed.

Due to space limitations, attendance will be limited to the first 150 registrants and to no more than 2 representatives per organization. All attendees will be required to present a government-issued photo identification to enter the conference. Non-US citizens will be required to submit a visit request form for Foreign Nationals at least 5 business days prior to the conference. The form and submission instructions can be found on the registration website. Foreign nationals will need to present a passport.

## ADDITIONAL INFORMATION

The morning session will include an overview of the program goals, technical challenges, and expected participation requirements. A description of how the solutions will be evaluated will be provided.

The afternoon will include unclassified presentations and poster sessions to provide an opportunity for attendees to present their organizations' capabilities and to explore teaming arrangements. Attendees who wish to present organization capabilities for teaming opportunities may submit a request through the registration website. Details on the presentation and poster formats, and the procedure for submitting a request to present, will be provided after approval to

register for the Conference has been granted. Time available for presentations and space available for posters will be limited. Therefore, presentations will be limited to the first 20 registered respondents who request an oral presentation. There will also be a limitation on the number of posters (i.e., 25) determined by the first registered respondents that request a poster presentation. These presentations are not intended to solicit feedback from the Government, and Government personnel will not be present during the presentations.

This Proposers' Day is intended for participants who are eligible to compete on the anticipated BAA. Other Government Agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), or any other similar organizations that have a special relationship with the Government, that gives them access to privileged or proprietary information, or access to Government equipment or real property, will not be eligible to submit proposals to the anticipated BAA nor participate as team members under proposals submitted by eligible entities. While such entities are not prohibited from attending the Proposers' Day, due to space limitations, preference will be given first to those organizations that are eligible to compete. IARPA will not provide reimbursement for costs incurred to participate in this conference.

Questions concerning conference & registration can be sent to [dni-iarpa-events@iarpa.gov](mailto:dni-iarpa-events@iarpa.gov).  
Questions regarding the program can be sent to [dni-iarpa-baa-16-13@iarpa.gov](mailto:dni-iarpa-baa-16-13@iarpa.gov).

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