

CVDI IAB Survey Responses for Year 8

(Revised: 11/5/18 at 8:27AM)

Becton Dickinson

IAB Member: *Jay Vandervoort*

Current University Affiliation: *Drexel University*

1. **What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: *Incrementalization - Drexel. Currently in flight.*

2. **What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: *Unknown at this time*

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Capital One

IAB Member: *Will Franklin*

Current University Affiliation: *University of Virginia*

1. **What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: Anomaly detection for computer system health monitoring, fraud detection, credit risk management. We do want to continue to follow the adversarial learning thread of work that was started last year if the university will continue that thread, though we feel like we got a lot out of last year's work.

2. **What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: We want to continue to follow the privacy preserving analytics work that CA and UVA have been taking a lead role on.

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CGI

IAB Member: *Will LaBar*

Current University Affiliation: *University of Louisiana at Lafayette*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER:

- 1) Natural Language Processing, including the following:
 - a. Very large scale text processing
 - b. Language independent models, specifically interested in applications of Reinforcement and Transfer Learning
 - c. Context/domain sensitive search and retrieval, ex. Find me all documents that look for "vaccine" data in "medical" domain, and not in "news" domain
 - 2) Full Motion Video – Being able to process full motion video from a variety of data sources – object detection, tracking, etc.
 - 3) Edge Analytics – Being able to process imagery and video data at the edge, ideally within the Camera module before transmitting it to the gateways and eventually to the cloud
 - 4) Exploring Blockchain-based approaches for data storage and data sharing
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- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: N/A

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GlaxoSmithKline (GSK)

IAB Member: *Jonathan Emeigh (Nick Locantore)*

Current University Affiliation: *Drexel University*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: [High-dimensional data visualization and pattern recognition](#)

- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: [TBD](#)

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HeavyWater

IAB Member: *Soofi Safavi*

Current University Affiliation: *Drexel University*

1. **What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: Machine learning R&D in computer vision, semantic reasoning and human computer interaction

2. **What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: Fund group projects to allow for greater investment and focus

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Intel Finland Oy

IAB Member: *Jarno Nikkanen*

Current University Affiliation: *Tampere University of Technology*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: Using deep learning to enable improvements in camera and imaging algorithms, dealing with data accumulation challenges

Developing a means to cope with less data for training deep networks. Lack of data and cost of accumulating large databases is a common problem for many deep learning applications, so I would expect also other IAB members to have use for potential advances in this area.

- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: Seeing the other research topics and results

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M-Brain

IAB Member: *Kimmo Valtonen*

Current University Affiliation: *Tampere University of Technology*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: *Augmented Intelligence in the BI context*

- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: *A view into state-of-the-art, valuable discussion*

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Nokia

IAB Member: *Juhani Ahonen*

Current University Affiliation: *Tampere University of Technology*

1. **What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: [Models supporting distributed processing](#)

2. **What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: [Real-time video analytics](#)

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Northrop Grumman Aerospace Systems (NGAS)

IAB Member: *Steve Cento*

Current University Affiliation: *Stony Brook University*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: Cognitive Autonomy - using demonstrated novel dynamic/adaptive, cutting edge artificial intelligence (i.e., machine learning, deep learning, dynamic data analytics, etc.) paradigms, applied to military vehicle/flight management systems applications.

- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: No other needs at this time. We cannot further participate in IAB discussion panel and/or slide presentations at this time, due to ITAR/EAR export restrictions.

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Zblok

IAB Member: *Mouli Narayanan*

Current University Affiliation: *Stony Brook University*

- 1. What areas of your company's current research and/or data science challenges are you looking for CVDI assistance in the coming year?**

ANSWER: Company's mission is a digital biomarker platform. Currently, our research is focused on understanding gait, motion and sleep-related waveforms. Effective visualization of data is a huge challenge both from a prediction and historical point of view. Company has made strides in personalized view of visualization. We continue to look for new ideas in the area of visualization and new prediction capabilities based on gait data.

- 2. What other added-value needs or direction does your organization seek from the Center's research?**

ANSWER: Company is looking to invest into secure, scalable, clustered and fully managed AI infrastructure platform to support streaming data ingestion and real-time analytics (including supervised and unsupervised learning) at web scale. Off the shelf components and open source software when packaged can do the job but we are looking to tap into brightest minds to see layer by layer what will be an effective stack - network, storage, compute.