CVDI YEAR 10 – IP Disclosure Information Sheet

Background

IAB members are eligible to license any copyrightable software or patentable inventions that are developed in the course of the project year per the CVDI Industry Membership Agreement and Bylaws.

The information you provide will be used to compose the CVDI Year 9 "IP Report Letter".

The IAB licensing options are:

1) Non-exclusive internal-use license,
2) Non-exclusive commercial license,
3) Exclusive commercial license, and
4) No license

IAB members are given a 90-day window of time to return their completed "IP Report Letter" with their licensing intentions.

After the 90-day window, if no IAB members express interest in a commercial license, the intellectual property becomes open to the public.

Instructions

Please complete this form and return to Sally Johnson by September 30, 2022. (sally.johnson@louisiana.edu).

Please note IAB members will also receive a full copy of the CVDI Year 9 "Project Final Report" so there is no need to duplicate all of that information here. This should be a "high-level" summary ONLY (see "SAMPLE" document").

IP Description:

- List up to ***four*** "IP Descriptions"
- Provide a concise description of each Intellectual Property
- Keep descriptions between 25 – 150 words each

Key Concept:

- List up to ***six*** "Key Concepts" per "IP Description"
- Provide a concise description (key concept) of what the each Intellectual Property does
- Keep key concepts between 10 – 50 words each

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PROJECT INFORMATION	
Project ID:	10a.005.UL_TAU
Project Title:	Improving Drowsiness and Fatigue Prediction with Multi-modal Sensing and Deep Learning
Project Team:	Raju Gottumukkala, Moncef Gabbouj, Satya Katragadda, Raviteja Bhupatiraju, Majid Hosseini, Iftikar Ahmad, Matti Vakkuri

IP Description *(include language/technologies)* *25-150 words each*	**Key Concepts** *(provide concise description of what each PI does)* *10 – 50 words each*
The project investigates the problem of predicting the drivers' affective states (i.e. emotions related to anxiety, stress, drowsiness) using a combination of multiple sensors (i.e. video and physiological signals such as GSR, skin conductance, heart rate, and skin temperature). The project will develop hardware and software system for collecting multi-modal sensor data from driver (i.e., physiological wearables, video camera). This task includes feature engineering to integrate multi-modal sensor and video stream-based features, deep learning techniques for improving the performance of drowsiness and fatigue detection, and predict the drowsiness ahead of time.	1. **Raju Gottumukkala:** Project oversight and system design of driving simulator 2. **Majid Hosseini:** Setup experimental infrastructure (camera, driving summary, physiological sensing, data collection, processing and analysis) infrastructure 3. **Majid Hosseini:** Data collection using experimental study to understand emotional states, and drowsiness level of driver subjects 4. **Raju Gottumukkala, Moncef Gabbouj:** Investigate techniques for multi-modal representation and information fusion.
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