MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Call for 2022-23 Army Deep Green Data Science (DS) and Artificial Intelligence (AI) Challenge Competition Participants for Phase II

1. The U.S. Army Combat Capabilities Development Command (DEVCOM) Army Research Laboratory (ARL) Artificial Intelligence for Maneuver and Mobility (AIMM) Essential Research Program (ERP) is sponsoring the next Deep Green DS & AI Challenge with the Army Office of Business Transformation’s (OBT) Enterprise Data Analytics (EDA) office. This Deep Green challenge will focus on perception for autonomous navigation in off-road mission environments utilizing Computer Vision (CV), Light Detection and Ranging (Lidar), and AI algorithms. The challenge will center on the performance of AI algorithms that assign semantic labels and corresponding uncertainties in near real time to ingested CV or Lidar data of the off-road environments.
2. With Phase 1 complete as of September 30, 2022, this Call for Participants pertains to the next iteration of the competition. This Deep Green DS & AI Challenge Phase II is planned to run from January 9 to July 28, 2023, using multiple tracks for the Computer Vision and LiDAR models. Phase II will give competitors the option to use either the CV data, LiDAR data, or both datasets to build a model. The highest scoring model created from this challenge will be used as a baseline performance prototype for further development on Army autonomous vehicle systems. The AIMM ERP will evaluate models based on quantitative metrics. Non-monetary awards have been authorized for the winning teams.
3. The 2022-23 Deep Green DS & AI Competition will be open to individuals and teams who are interested in Data Science, Artificial Intelligence, Deep Learning, Computer Vision, and autonomous systems. This competition will aid in improving the competitor’s ability in scientific research and development of autonomous systems. Eligible individuals who can join the competition include current Government civilian or military personnel or a representative of a Non-Federal Entity (NFE) with an existing Government relationship. A team signup sheet will be hosted by OBT to support individuals to form teams to work collaboratively. Each team will have a single point of contact designated as the Team Captain that must be identified with OBT.
4. All participants are required to be US citizens. There are no restrictions/requirements for Government only teams for participation. For NFE teams, the team captain/liaison must be a Government employee, military or civilian, and is responsible for ensuring there is an existing, valid legal authority supporting the involvement of the NFE representative. Examples of legal authorities involving NFEs include contracts, assistance instruments, Other Transaction Agreement/Authority, Enduring power of attorney, or Cooperative Research and Development Agreement. It is the responsibility of the team captain to ensure the efforts under this challenge fit within the scope of the existing legal arrangement with the NFE. Any questions concerning inclusion of an NFE must be addressed to the team captain’s home organization’s legal office. Non-Federal Entities with an existing valid legal relationship with the Government is key to including an NFE as part of a Government team or establishing a separate team and this legal relationship must be documented as part of the submission package. Government employees are participating in their official capacity, with approval from their supervisor. Any costs associated with this challenge are to be borne by the Government employee’s home organization. No funding is provided under this challenge and all models or solutions built will be the sole property of ARL.
5. Technical skills that would be beneficial but not required for participation would be basic coding skills, basic knowledge of Deep Learning Frameworks, and basic understanding of computer vision methodologies. OBT EDA will provide the opportunity to learn through training materials that will be made available at the start of each competition.
6. As the AIMM Organization within ARL is the sponsor of this challenge and will evaluate the submissions, no individual, military, or Government civilian, associated or involved with AIMM will be eligible to participate in this challenge. Other military or Government civilians at ARL may participate in this challenge, either individually or as part of a team.
7. A schedule of milestones and deadlines will be provided at the competition kickoff, slated for January 9, 2023. Registration officially closes March 1, 2023; acceptance into competition after this requires explicit approval from OBT EDA and ARL.
8. Point of contact for DEVCOM ARL is Mr. Philip Osteen, commercial (410) 278-2057 or e-mail: philip.r.osteen.civ@army.mil. Point of contact for OBT EDA is Dr. Matthew Millar, e-mail: matthew.c.millar3.civ@army.mil.
9. For further competition signup instructions, please see the OBT EDA website at: <https://www.obtportal.army.mil/EDA/DeepGreen/>
10. For more information, see the attached enclosure for the problem statement and evaluation criteria.