Radar Challenge
"Radar-A-Thon"

Hosted by 2020 IEEE International RADAR Conference,
Washington DC, USA

http://ieee-aess.org/radar-challenge

Announcing the Radar Challenge

The Radar Challenge is a new event co-hosted with radar conferences that enables participants to experience the magic of radar in a personal, tangible and experiential way—offering an opportunity to create and "see" invisible radar waves interacting with their environment. The event will host an unknown target scene that participants will then sense and decipher using their self-engineered "home-brew" radar. The goal is to build a community of radar builders that collectively explore the art of the possible in making "COTS-based" radars.

The Challenge

At the conference a challenge area will be set up comprising a curtain with a number of stationary & moving objects hidden behind it. The participants will be required to sense behind the curtain and detail the scene as accurately as possible. The participants will be judged on their ability to sense, accurately depict, & describe what is behind the curtain with more credit being allocated to inexpensive, novel, and innovative systems. Team entrants are encouraged. Each entry will be required to submit a concept paper through the online system to compete for the challenge awards to be presented at the conference.

Challenge Criteria

Criteria:	Weight
Collection, Performance & Analysis	**60%**
Design Ingenuity	15%
Performance/Price Ratio	10%
Packaging / Reproducibility	10%
Demonstrated Performance	25%
Overall Cost	Pass/Fail
FCC Part 15 Compliance	Pass/Fail
Paper / documentation:	**40%**
Bill of Materials	20%
Hardware & Software Design Overview	20%

NOTES:

- Systems can only be constructed from commericial off-the-shelf (COTS) components
- Bill of Materials (BOM) must include source & price
- Systems must be compliant with FCC part 15 (https://www.fcc.gov/oet/ea/rfdevice)
- The scene will be made available at the start of the conference & taken down prior to the banquet.

Categories

There are two challenge classes, based on max cost:
Maximum Value Radars: COTS BOM < $750
State of the COTS Art Radars: COTS BOM < $3k

Deadlines

The following deadlines apply to the challenge:
- 30/01/20 Submission of four page concept paper
- 29/04/20 10:00AM – Sensing Results Submitted

Judging

Anyone can submit their results, but participants will be judged based on the published criteria. Anyone suspected of cheating will be disqualified. First, second and third prizes will be awarded for each category. Submitted results will be displayed, the winners announced, and prizes awarded during the banquet dinner. The winning entries will also be published in the IEEE AESS Magazine.

Contact

The challenge is organised by the 2020 IEEE International Radar Conference and the IEEE AESS Radar Systems Panel. In the case of questions, feel free to contact:
Phil Corbell (phillip.corbell@ieee.org) or Alex Charlish (alexander.charlish@ieee.org)

Check the website regularly for news as well as tips on getting started!

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