

## RBNV Summary, January 7, 2025

Video at <https://youtu.be/JLIBnEx8Hjc> and on <https://www.dprg.org/category/news/>.

Tom C presented his camera-based object detection project using an ESP32-CAM [1]. He used the Edge Impulse development environment to train a model to detect orange cones, achieving 90% accuracy in simulation [2], though initially having some issues with real-world accuracy until he fixed a camera rotation problem [3]. He also added a display to view the camera's input [3]. Tom was very impressed with Edge Impulse [3].

Tom's work earned him a "black star" for significant technical progress.

Edge Impulse link: <https://edgeimpulse.com/>

Chris N showcased the Arduino Nikola camera [5], which is very small but has limited RAM. He also presented a portable DC power supply, the FNIRSI EPS150

Paul Bouchier presented his new indoor robot design, the Minniebot, which uses a Lidar, and an OakD-lite camera. He used OnShape for the mechanical design

Pat Caron demonstrated Raspberry Pi Connect, a tool for remotely accessing a Raspberry Pi [4]. Pat also showed a new Hantek PC oscilloscope and provided a link to where he bought it

January Monthly Meeting Camera Panel: There was a discussion about having a January meeting segment where members share the key features of the smart cameras they are using. The cameras mentioned were:

- Pi-Sight (OakD-Lite without depth)
- ESP32-Cam
- Arduino Nikola
- MaixCam Smart-camera panel

Other Discussions and Topics: A discussion of DGPS (differential GPS) vs RTK GPS [10], with a link provided to an example project

A DPRG trip to the theater on Sunday Jan 19 at 4pm was proposed

Theater link: <https://www.ticketdfw.com/event/welcome-mat-2-people-0> [8]