

Robot Builders Night Virtual for August 19th, 2025

Video at <https://youtu.be/WfQlXiQ9LWo>

Enhanced Cone Detection Techniques

- **Mike Williamson** shared his progress on improving the cone detection software using an Oak-D camera. The software, known as "Cone Slayer AI," required filtering adjustments to reduce noise and inaccuracies, such as detecting orange objects as cones. He implemented noise reduction techniques and visualized the data using RViz.
- Discussion around potential conflicts arose with Mike's system involving multiple launch files, where disabling certain nodes affected the publication of sensor frames. Collaborative troubleshooting was suggested by **Doug P.**, recommending isolating the launch files to identify the issue.

Robotics Projects and Inventions

- **David Ackley** showcased his progress on a robot dog kit as a personal project and shared his excitement around the programming aspect. Inquiries into connectivity at the Dallas Maker Space revealed his use of phone networks to control the robot.
- **Doug P.** introduced a new AI-powered blob detection for cone tracking, using a combination of AI models and blob tracking to maintain the detection accuracy of cones at various distances. He considered incorporating adaptive color filters for more robust detection under variable lighting.

Event Planning: Robo Columbus 2025

- **Doug P.** confirmed the upcoming Robo Columbus event in late November 2025. Details include obstacle placement challenges and no-GPS navigation challenges to elevate the competition level.
- Discussion on waypoint limitations and potential challenges to ensure fairness and technical excellence were highlighted, aiming to encourage innovative problem-solving in the community.

AI and Software Development

- The ongoing integration of AI tools in software development was elaborated on, with particular focus on how AI is expected to enhance developer productivity and creativity.
- **Carl Ott** demonstrated the use of ChatGPT's project instructions to maintain context across chats, while **Kareem** highlighted different AI tools like Claude Code and Windsurf, praising their efficiency in specific coding environments.

Conclusions and Insights

- Participants expressed ongoing interest in using AI for both robotics control and software development, highlighting both the capabilities and current limitations of existing AI tools.
- The community is preparing for future events with challenging scenarios designed to push the limits of existing technologies in robotics.
- Continuous learning and adaptation of new technologies were encouraged to maintain intellectual curiosity and technical prowess.

Referenced Links

- **Mike Williamson:** Discussion on the “Cone Slayer AI” and RViz visualization.
- **Doug P.:** Insights into blob detection and adaptive filtering.
- **David Ackley:** Personal project on a robot dog kit.