

NaviGatr Summary

Team NaviGatr has developed a platform to enrich the experiences of the visually impaired.

NaviGatr runs on a Raspberry Pi 5, a lightweight computer, with a camera and a tensor processing unit (TPU), which speeds up machine learning tasks. NaviGatr uses three different models to inform users about their environment: an object detection model, a depth estimation model, and an emotion classification model. By capturing a photo of the user's surroundings, NaviGatr can synthesize the output of these models into an audio prompt informing the user about what objects are nearby, how far away/where they are, and the emotional state of nearby people. NaviGatr runs the object detection and emotion classification on board the Raspberry Pi, harnessing the power of the TPU to ensure fast performance, while the depth estimation model runs in the cloud. We hope that this platform serves as a springboard to create further realtime devices to help the visually impaired.