

CAPturAR: An Augmented Reality Tool for Authoring Human-Involved Context-Aware Applications

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Categories:

- Computer Technology

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- Augmented Reality
- Computer Technology
- Computer Vision
- computers
- HCI
- Human Body Communication
- Machine Learning

Researchers at Purdue University have developed a new tool for augmented reality in enhance machine awareness to human interaction, known as CAPturAR. Currently, machines recognize human interaction in pre-defined contexts but have difficulty recognizing day-to-day personal interactions. Purdue researchers meet this challenge through a helmet-like device with a multi-camera setup that allows machines to observe human activity actively and rapidly author computer programs. Common types of human activity were tested with a prototype device including a participant survey twelve unique users opening a pill bottle at the same time daily which then took a computer 0.65 seconds to replicate and at a position that was off by 3.69 cm on average. In addition, computers were able to learn sequential tasks from participants such as repairing a bicycle wheel.

Advantages:

- Accurate
- Rapid Authoring
- Repeat Measurements

Potential Applications:

- Machine Learning
- Robotics

Technology Validation:

Participant study

Recent Publication

Convergence Design Lab Purdue University
2020 UIST 33rd ACM User Interface Software and Technology Symposium
engineering.purdue.edu/cdesign/wp/

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