Smart mirror | Photo source Suhyeon Choi on Unsplash

SMART MIRROR CAN DETECT EARLY SIGNS OF DISEASE

HEALTH & WELLBEING

Student researchers have developed a smart mirror that monitors malignant moles using machine learning algorithms.

Technology is becoming integrated into our world in more ways than we realize. We have seen our homes transform into spaces rife with innovations to improve our daily lives, such as wallpaper that can detect fire and an eco-friendly smart shower. But technology is not only there to improve the comfort of our homes; student researchers at Cornell Tech have incorporated health diagnostics seamlessly into everyday home décor.

The diagnostic smart mirror scans your skin for any changes that could suggest cancer. Skin cancer can often be diagnosed and evaluated from visual inspection. Such technology speeds up diagnosis time, leaving more room for treatment and therefore saving lives.

Additionally, Reflective Health functions like a two-way mirror, with a display behind it, allowing the user to see themselves alongside a screen behind the glass. Everyday it will take a photo of the users face and upper body, learning their profile through algorithms. Potential anomalies can be referenced through a database of over 3000 photos of moles saved within the system. The system will work without an internet connection and will not save photos to protect user data.

Graduate researcher Evan Kesten and his team have built their second hardware prototype and are still working to finetune their algorithms. As they approach graduation, they hope their work will act

as a foundation for future students to continue research. They hope it also highlights collaboration that brings fresh life into so many student projects.

“We think it’ll be a great way to keep combining the best parts of two programs. We have teams of students building out on both sides – the user experience and the medical component,” Kesten says. “I think it has a lot of potential to grow as an internal project within Cornell Tech, until it reaches a point where it’s ready to be explored as a viable product.”

The team believe that one day the mirror will be able to work as a dashboard for doctors to reference in conjunction with patient examinations. This could be a big step in streamlining the diagnosis and treatment process for cancer patients. How else could student innovations revolutionize traditional practices?

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