

# IIT-Gn students file patents for mobile visual search applications

## App developed intended to facilitate the transition from virtual keyboard to natural user interface

Having co-invented three separate visual search applications during their summer internships, three Indian Institute of Technology, Gandhinagar (IIT-Gn) students have filed for patents.

While IIT-Gn student Ekta Prashnani helped design a visual search application for mobile phones that can recognise text with random orientations in an image, two other final year students Adit Gupta and Tarkeshwar Singh have invented applications that address the use of mobile visual search for social networking and retail, creating new experiences for users of mobile devices.

All three students were interning with Ricoh Innovations Pvt. Ltd (RIPL) in Bangalore.

"The discovery we made is intended to facilitate the transition from virtual keyboard to natural user interfaces, that visual search is aiming to bring about. We wanted to enhance the accuracy and robustness of image recognition for visual search applications on mobile devices. The idea was to provide an enhanced experience for users," said Prashnani, who has applied for a patent for the application, along with her mentor Dr Kaushik Pavani, a research scientist at Ricoh.

On the other hand, Gupta and Singh are co-inventors of applications they designed during summer internships with Ricoh. While one is invented by Jamey Graham, Timothee Bailloeul and Adit Gupta, the other is by Ashootosh Chand, Adit Gupta and Tarkeshwar Singh.

Singh credited Ricoh Innovations' work culture for his achievement: "Apart from all the hard work involved, I also believe that the company's culture deserves a fair share of credit in facilitating us the environment where we were able to accomplish so much during the short span of the internship."

Meanwhile, talking about the patent filings, Sudhir Jain, director at IIT-Gn said, "The number of patents and the research papers published in reputed international journals by the undergraduate students of IIT-Gn clearly underline the facts that the institute has been successful in inculcating research culture among its undergraduate students. However, the students are capable of doing far more than what they are often credited with, and summer internships can be extremely productive in terms of output for the host company or university if managed right."