



Searching for Victims of Natural Disasters: Autonomously Flying Drones to the Rescue

Davide Falanga, Robotics and Perception Group (led by Prof. Davide Scaramuzza), Department of Informatics, University of Zurich

Autonomous drones will soon play a major role in remote-inspection and search-and-rescue missions, where a fast response is crucial. They have the potential to navigate quickly through unstructured environments, enter and exit buildings through narrow gaps, and fly through unknown, indoor environments. The internationally renowned Lab of Davide Scaramuzza is at the forefront of developing drones that can adapt autonomously to such highly complex situations.

This presentation will show you the recent progresses in autonomous, high-speed drone navigation using only onboard sensors and computation. The combination of fast neuromorphic sensors and new machine learning algorithms will significantly raise the bar of what these machines are capable of. You will also see a live demonstration of the first drone that can actively change its shape and guarantee stable flight at all times.

More information: [Robotics and Perception Group](#)

Video: [The Foldable Drone](#)



The morphing drone can squeeze itself to pass through gaps and then go back to its previous shape, all the while continuing to fly. (Image: UZH)



When faced with a narrow passage, the drone can switch to a "O" shape, with all arms folded as close as possible to the body. (Image: UZH)