Visual Navigation for Flying Robots
D. Cremers, J. Sturm, J. Engel, C. Kerl
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Computer Vision Group
Department of Informatics
Technical University of Munich

Sheet 4

Topic: Proposal

Submission deadline: Tue, 18.06.2013, 10:15 a.m.
Hand-in via email to visnav2013@vision.in.tum.de

Exercise: Project Proposal

In the remainder of the semester, you will implement your own project on visual navigation for flying robots. This week, your task is to prepare a five minute talk to be presented in the next exercise (Thu, 20.06.2013, 2:00 p.m.). Our recommendation is that you prepare 3–5 slides with the following structure:

(a) Idea: Illustrate your application. Add an image or a sketch, make this slide visually appealing and non-technical.

(b) Research problem: What is challenging or interesting from the scientific perspective.

(c) Approach: Explain how you want to solve the problem. Give some technical details.

(d) Implementation plan (optional): Break down the problem into individual sub tasks, and possibly assign them to your team members. Specify milestones (and deadlines for these milestones). Formulate the challenges/risks, and possible contingency plans.

(e) Future work (optional): Discuss potential applications of your approach. Discuss potential future research directions, e.g., for a master thesis project.

You are free to come up with any idea, but it has to be feasible in the upcoming 6 weeks. Some examples of projects are:

(a) Person following (colored shirt or wearing a marker)

(b) Flying camera for taking group pictures (possibly using the OpenCV face detector)

(c) Fly through a hula hoop (brightly colored, white background)

(d) Navigate through a door (brightly colored)

(e) Navigate from one room to another (using ground markers)

(f) Avoid obstacles using optical flow

(g) Landing on a marked spot/moving target

(h) Line following (brightly colored)

Submission instructions

Please submit your presentation slides as a PDF via email to `visnav2013@vision.in.tum.de`.