



Autonomous Navigation for Flying Robots

Lecture 2.4: Homework Discussion (of last week)

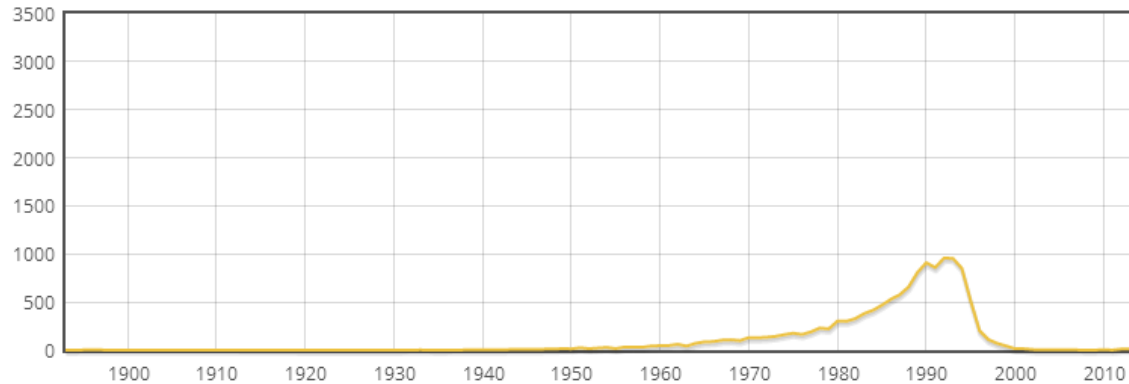
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Course Launch

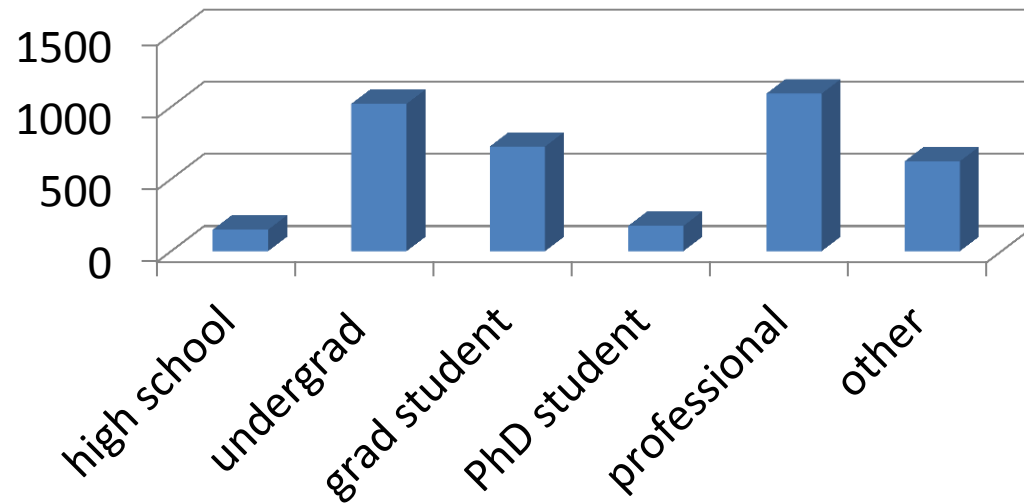
- >15k registrations
- >3k completed first week (videos + exercises)

YEAR OF BIRTH



Course Launch

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.../Topic-Level Student-Visible

SORT BY: DATE **VOTES** COMMENTS
 Quadrocopters with thermal cameras
for Forest Fire Prevention +119 25

 Temporal telecommunication
tranceiver +77 11

 Quadrotor with Nuclear Radiation
Detector +69 9

Painting with seeds +62 5

Lifeguard Drone +49 6

 Quadrotor for humanitarian
demining +46 8

 Application: Tree's Seed Bomb
Dropping Drones(lets save the
Mother Earth) +34 6

Instant Rescue (First Contact) System +31 4

Quadrocopters with thermal cameras for Forest Fire Prevention

+ 119

MrSparc

6 days ago

I think it would be extremely useful to have a squad of quadrocopters with thermal cameras for the protection of forests against fires. This squad should be linked to alert systems like the European Forest Fire Information System (EFFIS) (<http://forest.jrc.ec.europa.eu/effis>).

I live in Portugal and one of the main problems in countries of southern Europe in the summer season are the forest fires.

If we think about the areas burned by fires of at least 40ha in Europe was 950029.39ha and 2062 fires in 2012, the application of this squad of quadrocopters for prevention could be highly recommended and effective.

This is my proposal, which I believe is feasible if we can get a sufficient autonomy and a high degree of automation in the surveillance of these forested areas.

Top Three Applications for Quadrotors

- Quadrotors with thermal cameras for forest fire prevention [MrSparc, 119 votes]
- Temporal telecommunication transceiver [npanagia, 77 votes]
- Quadrotor with nuclear radiation detector [detik19, 69 votes]

- Painting with seeds [MarkTillotson, untimonyred 62+34=96 votes]
- Lifeguard drone [chclauson, 49 votes]
- Instant rescue / first contact [Barrtos, 31 votes]
- BeerCopter [AndreasLohr, 29 votes]
- Mosquito Hunter [JasonWang, 27 votes]
- Flying umbrella [LudovicGuegan, 11 votes]
- ...

Potentials and Challenges



- Potentials
 - Completely new applications
 - Mass market bears an enormous potential
- Challenges
 - Limited battery life
 - Limited payload
 - Safety
 - Legal regulations

- Simulator
 - WebGL
 - Excellent timings
 - Race course exercise upcoming in week 8
- Parrot Ardrone instructions coming soon
 - ROS based
 - Python stub
 - EdX wiki