Signals, Instruments and Systems 2014-15
Course Projects

1 General information

SIS will involve a 45h course project (this should include reading, implementation, reporting, oral defense of the project, and review of the report of another student team). Students will choose a project from a list of approved topics distributed during the first week of the semester. Projects will be carried out in groups of two students (an ad hoc arrangement will be found in case of an odd total number of students). Each member of the student team will have to defend part of the project in front of the audience. Every project will be supervised by one TA (Steven Roelofsen, and Zeynab Talebpour) or a member of the support staff (Ali Marjovi, Bahar Haghighat, and Iñaki Navarro). Definitive assignment of course projects will be communicated by the end of the seventh week, based on the preferences expressed by the students. Students will be expected to contact their project supervisor as soon as possible to begin planning their work schedule. During the eight week, a common kick-off session for the implementation of the course project, which will be planned by each project supervisor.

Students will be required to submit a brief intermediate report on their project progress by the end of the tenth week, showing a clear understanding of the project topic and its related literature, a concrete implementation plan, familiarization with the needed tools, and preliminary implementation results. This will allow their project supervisor to give them feedback in terms of implementation progress, problem and tool understanding, and time planning.

Each student will also be asked to serve as a reviewer for another student project and invited to ask questions during the defense session. Further details on the project report and presentation will be communicated in timely fashion.

2 Project assignments

1. Sound detection with a real e-puck

Supervisor – Steven Roelofsen (steven.roelofsen@epfl.ch)
Group 1 - Roxane Pott, Léa Pascal, Leïla Fleury
Group 2 – Samuel Maselli, Céline Delaloye, Loïc Chambovey
Group 3 - Sophie Bretagne, Paul Koblan-Huberson, Léo Benoit à la Guillaume

2. Road sign recognition with the e-puck

Supervisor – Bahar Haghighat (bahar.haghighat@epfl.ch)
Group 1 - Beatrice Bacchilega, Ghiggi Gionata, Petar Mattia
Group 2 - Mayumi Hamada, Marie Hertzog, Sandra Deferne
Group 3 - Karni Siraganyan, Florence Cuttat, Félix Fouret
3. Limitations of the e-puck accelerometer to detect earthquakes

Supervisor - Iñaki Navarro (inaki.navarro@epfl.ch)
Group 1 - Marc Rufener, Pétremand Yoan, Laurent Jospin
Group 2 - Arthur Turin, Vincent Cochevelou, Elyas Kazmi

4. Line following using a camera

Supervisor – Zeynab Talebpour (zeynab.talebpour@epfl.ch)
Group 1 - Noemi Romano, Anaïs Ladoy, Lou Curchod
Group 2 - Selim Amrari, Baptiste Gex
Group 3 - Hippolyte Bernard, Thierry Mounir, Nicolas Orsoni

5. Find the radiation source

Supervisor – Ali Marjovi (ali.marjovi@epfl.ch)
Group 1 - Nadege de Chambrier, Laura Iten, Rahel Fischer
Group 2 - Lucas Freund, Briac Virey, Theophile Vernhes
Group 3 - Benjamin Stucki, Jan Freihardt, Florian Landerer