Réunion Hebdo

25 sep. 2018 10:00 - 12:00

Team Objectives

Thomas

- Complete CRLB comparison with PCE and DoP. Deadline: December
- Inclusion of bias in angle measurements.
- Anchor selection.
- Publications: One international conference and COST, one paper submitted end of the year.

Mathieu

- Multipaths and NLOS incl. the iterative algorithm. Deadline: December
- Impact of new waveforms: creation of waveform toolbox with Fr. Rottenberg. Study of the 5G standard.
- Apply localization on the 5G standard.
- Publications: look at opportunities.

Shagayegh

- Publications: conference iterative algorithm at ICC or VTC.
- Impact of multipaths, antenna/hardware impairments,.. on the angle estimation (MUSIC and MAP). Deadline: end December
- Improve set-up AoA: three anchors measuring angles simultaneously, multiple sources.
- Improve scenario in iterative algorithms: NLOS,.. Selection of anchors if some bias.

Luca

- SWS: meaurements at ULg to characterize the near-field of the electrodes (Oct.12). Define the decoding thresohold at the receiver.Impact of the environment on the transmission. State-of-the-art of the other commercial solutions, and comparison.
- AMPERE: kriging. Full start in April. Collaboration with INERIS and TPT.

Hasan

- State-of-the-Art: passive radars, Wifi signals, MU-MIMO, crowd management.
- First simulation of radar on Wifi signals.
- First demonstration on USRP's with Wifi signals.
- FRIA defense = top priority.

Utkarsh

- Overview of LSTM-RNN and application to crowd forecasting.
- Theoretical study and implementation comparison of Time Series and NN for crowd forecasting, incl. complexity, seasonality,.. in collaboration with Jean-François.
- Publications: Time series and NN applied to one sensor.

Jean-François

- Complete de-anonymization of probe requests. Are fluxes possible ?
- Focus on VARIMA models with application to crowd monitoring.
- Course on cryptography.
- Discuss IT architecture with Proximus.
- Publication on VARIMA applied to crowd monitoring.

Sidney

- State-of-the-Art
- Redo Master Thesis.
- Publication about Master Thesis results.
- Include, step-by-step the multipaths

Hien

- Time-reversal: how to implement it in the frequency domain.
- Application to localization by comparison with IR data bases. Including HW impairments
- Tracking as an ultimate goal.

Team Targets

- Online postioning with multiple AoA measurements. Typically 3 anchors.
- Proof-of-concept: (i) anchor selection for AoA (Hien, Shaghayegh, Thomas, Luca); (ii) Wideband: Time-Reversal and passive radar (Hien, Hasan).
- Prototype of crowd monitoring at ULB (Jean-François, Utkarsh).
- Hien becomes our chief-expert for the USRP's demos.