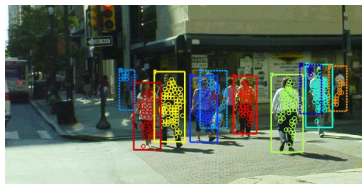# Interval-based Activity Recognition

Evangelos Makris, Alexander Artikis, Georgios Paliouras

Presenter: Nikos Katzouris

Institute of Informatics & Telecommunications,
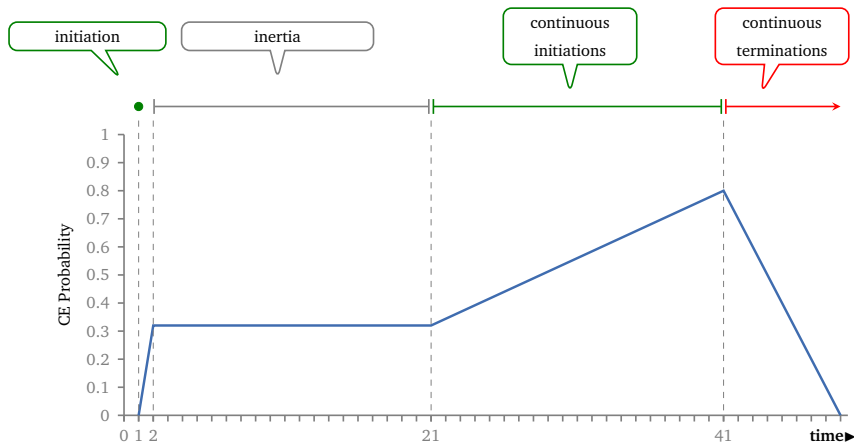NCSR Demokritos, Athens, Greece

Complex Event Recognition group
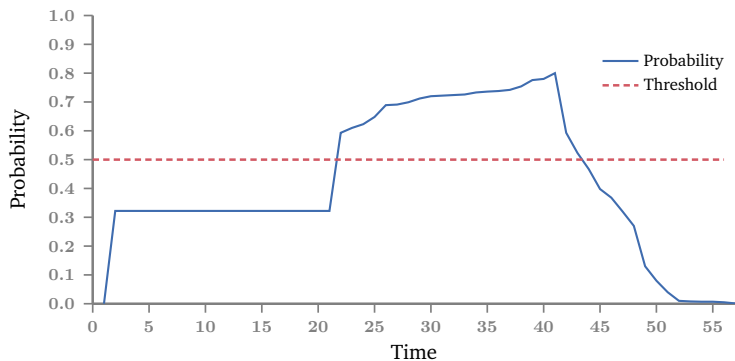http://cer.iit.demokritos.gr

Activity Recognition

Approach

- Formalise activity definitions in the Event Calculus.
    - Succinct representation by means of inertia.
    - Efficient reasoning on large datasets (eg RTEC).
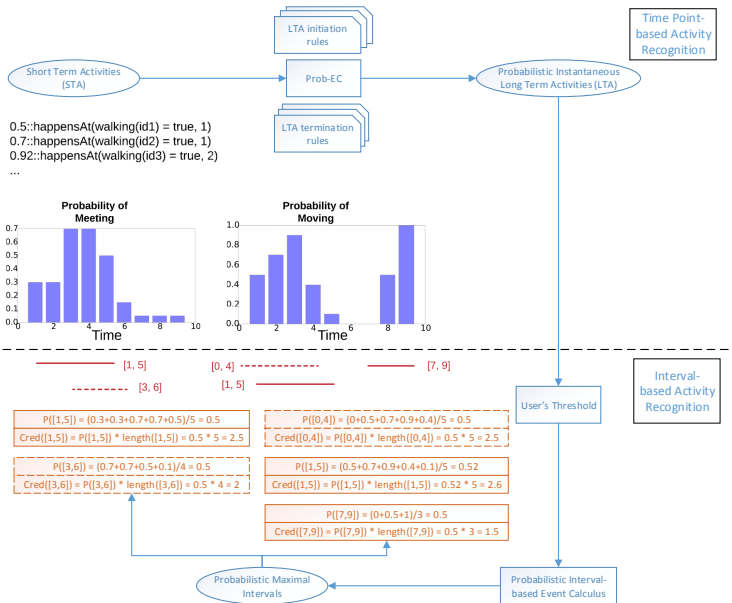- Deal with noisy input using ProbLog.

Event Calculus in ProbLog:
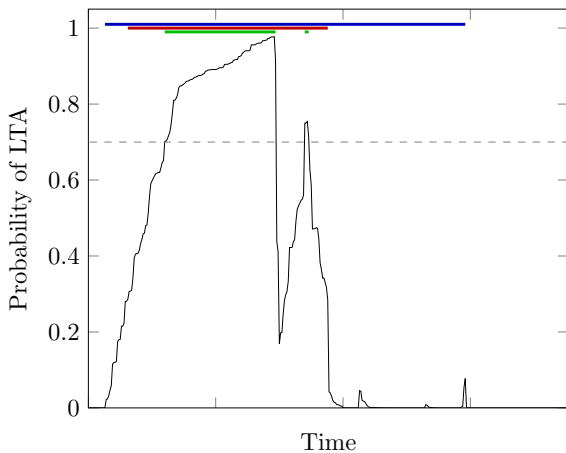## Time Point-based Activity Recognition

Event Calculus in ProbLog:
Time Point-based Activity Recognition

Interval-based Activity Recognition

Interval-based Activity Recognition: CAVIAR dataset

Current Work

- ✓ Linear-time algorithm for probabilistic maximal interval computation.
- ▶ Evaluation on top of different time point-based activity recognition frameworks.
    - ▶ Event Calculus in Markov Logic Networks.
- ▶ Activity recognition on data streams.