

CPS Summer School 2017

Designing Cyber-Physical Systems – From concepts to implementation

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25.09.2017 – Alghero



ALPEN-ADRIA
UNIVERSITÄT
KLAGENFURT | WIEN GRAZ

Institute of Networked and Embedded Systems

study

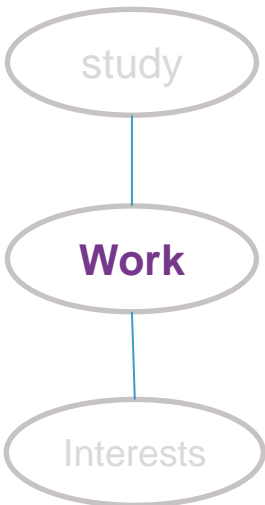
Work

Interests



Website: <https://nes.aau.at>

CPSwarm Project (H2020)



A Horizon 2020 project on applications of swarm algorithms in Cyber-Physical Systems

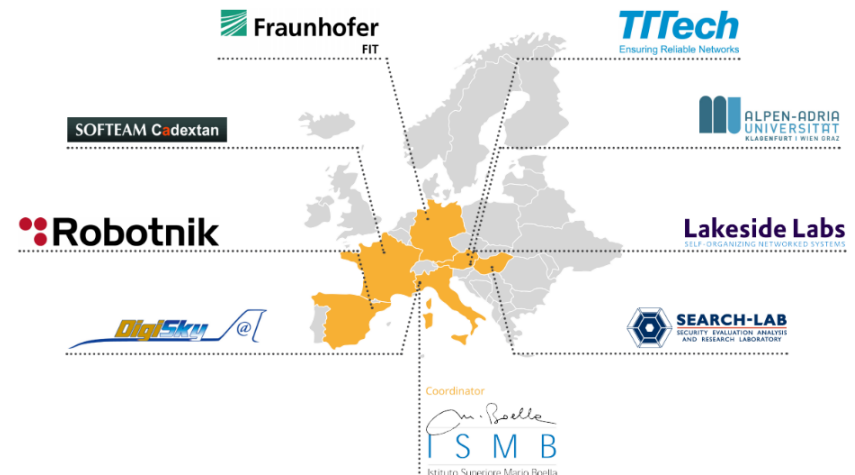
Objectives:

- Drastically Improve support to design of complex, autonomous CPS.
- Define a complete library of swarm and evolutionary algorithms for CPS design.

Applications:

- Swarm Drones
- Automotive CPS
- Swarm Logistics

Website: www.CPSwarm.eu



Spiderino

study

Work

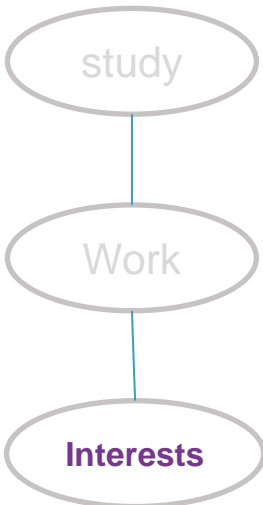
Interests

- Small size and low-cost.
- Attracted appearance.
- Wifi-module.
- Long battery life.
- Easy in assembling and programming.

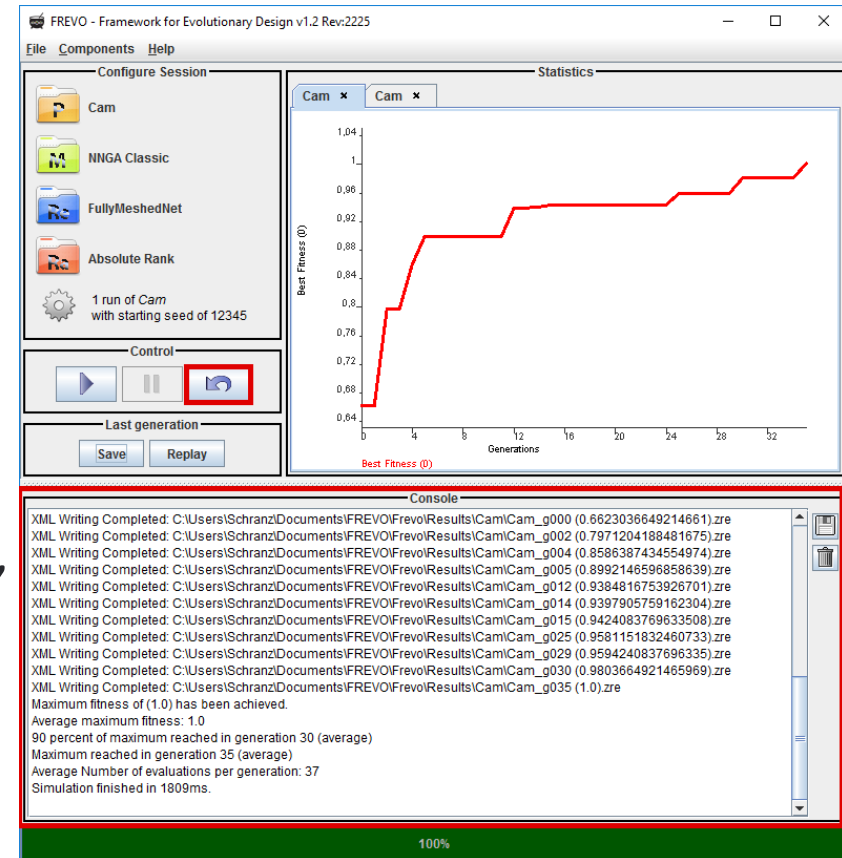


M. Jdeed, S. Zhevzhyk, F. Steinkellner, and W. Elmenreich. Spiderino-A low-cost robot for swarm research and educational purposes. In *Proceedings of the 13th International Workshop on Intelligent Solutions in Embedded Systems (WISES'17)*, Hamburg, Germany, June 2017.

FREVO



- Framework for Evolutionary design.
- Tool for evolving and evaluating self-organizing systems
- GUI.
- Java environment (min: 1.6).
- FREVO inputs: Problem definition, Select controller representation, Optimization method.



A. Sobe, I. Fehérvári, and W. Elmenreich, 2012, September. FREVO: A tool for evolving and evaluating self-organizing systems. In *Self-Adaptive and Self-Organizing Systems Workshops (SASOW), 2012 IEEE Sixth International Conference on* (pp. 105-110). IEEE.