Simone Ceriani

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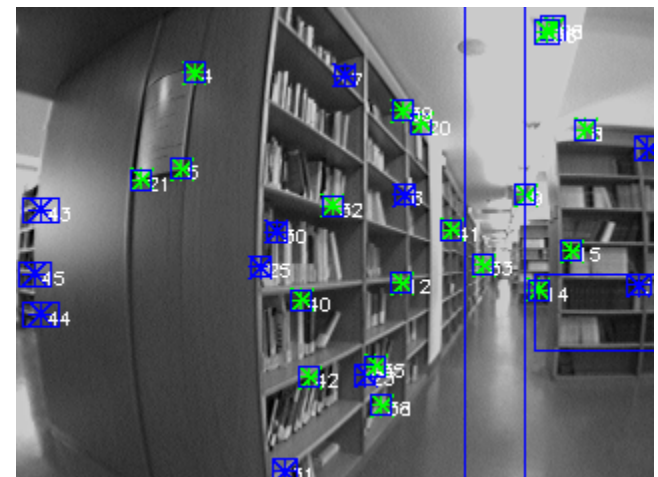- Education:

  – Master degree in Computer Engineering from Politecnico di Milano in 2008

  – Temporary researcher on LURCH projects in 2009

  – Ph.D. Student from January 2010.
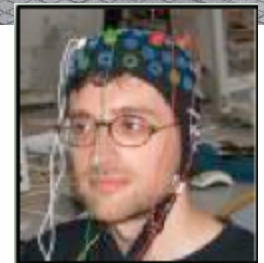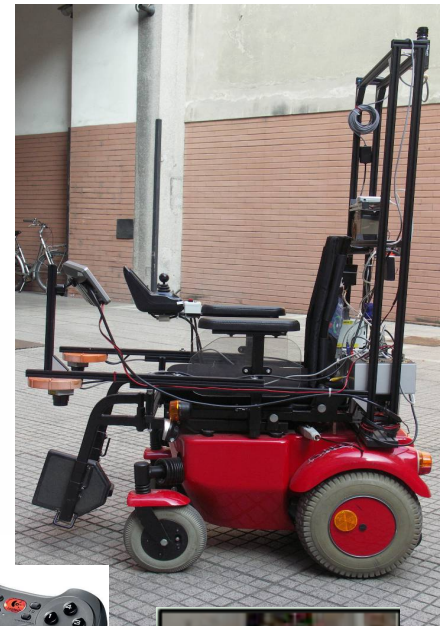
- Research Interests:

  – Robotics for disabled people

    LURCH: an autonomous wheelchair

  – SLAM techniques

    camera(s)

    laser scanners

- LURCH
  - Project started with my thesis in 2007
    - Semi-autonomous movement
      - "Drive assistant"
      - Obstacle avoidance
      - Wall following
    - Autonomous behaviors
      - "Drive me to the pool!"
    - Tested with disabled people
    - BCI interface
  - Software development:
    - Middleware developed in our research group
    - Start from the scratch for a lot of common problems
- Is it time for ROS on LURCH ?

- ## SLAM techniques
  - Framework for EKF-based SLAM
  - Cameras:
    - Monocular
    - Stereo
    - Multi
  - Lasers
- ## Sensor fusion
  - "Mixed" SLAM
    - Laser + camera + fiducial marker +....
  - Auto calibration
    - Where is the camera on the robot?
    - Which is the wheel radius?
- ## Test on real robots → LURCH