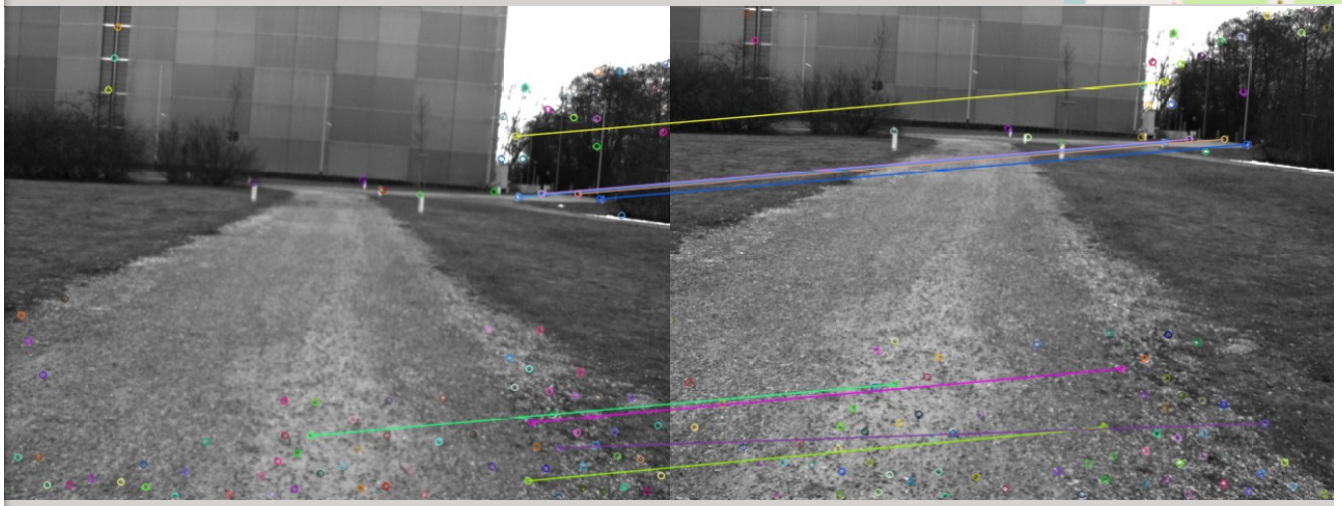
Fusing GPS and Stereo Data



Fusing GPS and Stereo Data

- Goals
  - Receive GPS and stereo data
  - Send GPS data to map
  - Convert GPS data to metric coordinate system
  - Ego-motion estimation from stereo data (reimplementation with faster openCV methods)
  - Fuse data in the metric coordinate system
  - Convert to Latitude / Longitude and sent to map
  - Overlay openstreetmap with the three positions

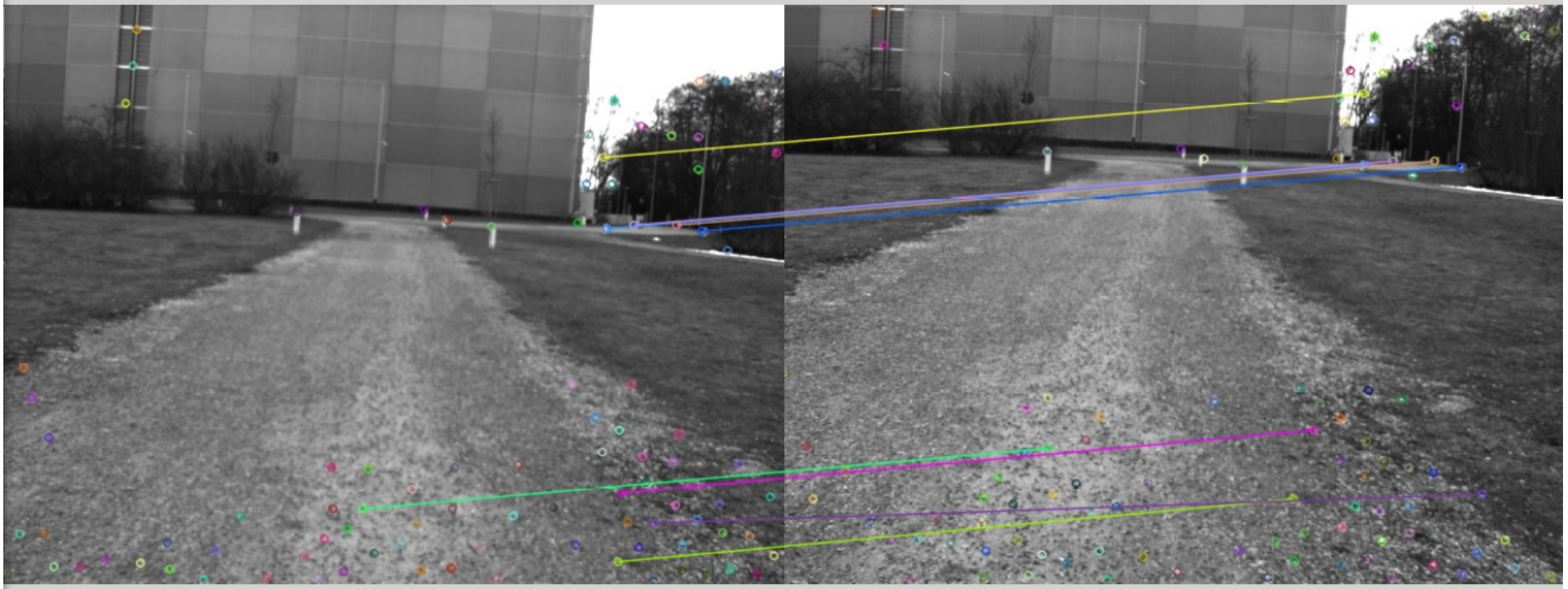
Fusing GPS and Stereo Data

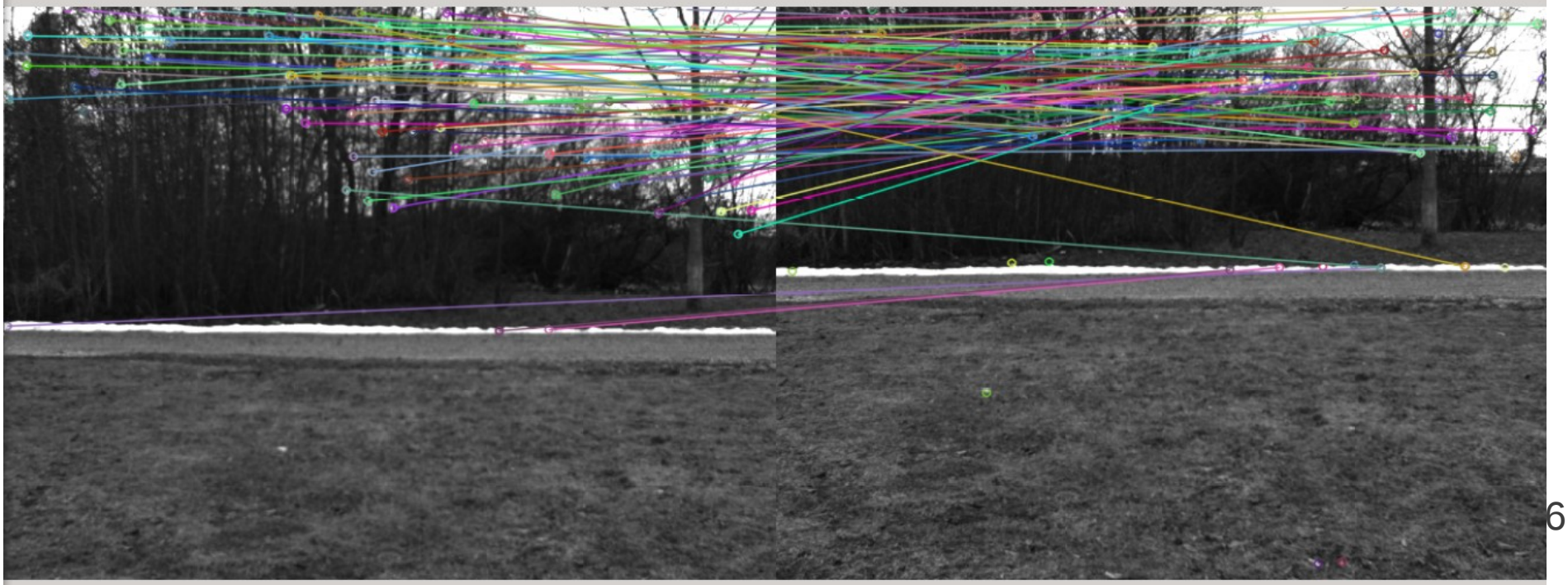
- Goals
  - Receive GPS and stereo data
  - Send GPS data to map
  - Convert GPS data to metric coordinate system
  - Motion estimation from stereo data
    - 3D Points of the keypoints are caluculated and matched
    - 3D Pose not working
  - Fuse data in the metric coordinate system
    - Extended Kalman Filter not implemented
  - Convert to Latitude / Longitude and sent to map
  - Overlay openstreetmap with the three positions

Fusing GPS and Stereo Data

- Issues:
  - Problems with Quadrocopters GPS receiver

    => no bag files available until last wednesday
  - Stereo data not the best, because the quadrocopter was only carried around not flying
  - Bad communication / time managmend in team





RVC Team6