

## Portable system for upper limb movement tracking

**Michał Ludwicki, Kinga Ostrowska, Natalia Marcinowska, Mateusz Kaszowski**

*Abstract:* This project deals with a development of motion capture system for upper limb movement tracking in 3D. It is based on a three inertial measurement unit (IMU) modules controlled by a microcontroller. The sensors are attached to arm, forearm and hand. Estimation of motion of each joint is processed on the basis of measured angular orientation, processed by Kalman filtering. This type of MoCap technique is used by commercial manufacturers. In this project, the emphasis was placed on the price vs accuracy of the obtained results. A comparative analysis was also carried out using a professional MoCap system, tracking retroreflective markers position in the IR spectrum.

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- 1) Michał Ludwicki, Ph.D.: Lodz University of Technology, Department of Automation, Biomechanics and Mechatronics, 1/15 Stefanowskiego Street, Poland (PL), [michal.ludwicki@p.lodz.pl](mailto:michal.ludwicki@p.lodz.pl).
  - 2) Kinga Ostrowska, B.A. (M.Sc. student): Faculty of Mechanical Engineering, Lodz University of Technology, Stefanowskiego 1/15 A22/K-16, Poland (PL), [208823@edu.p.lodz.pl](mailto:208823@edu.p.lodz.pl).
  - 3) Natalia Marcinowska, B.A. (M.Sc. student): Faculty of Mechanical Engineering, Lodz University of Technology, Stefanowskiego 1/15 A22/K-16, Poland (PL), [208819@edu.p.lodz.pl](mailto:208819@edu.p.lodz.pl).
  - 4) Mateusz Kaszowski, B.A. (M.Sc. student): Faculty of Mechanical Engineering, Lodz University of Technology, Stefanowskiego 1/15 A22/K-16, Poland (PL), [208804@edu.p.lodz.pl](mailto:208804@edu.p.lodz.pl).