

Aftab Ahmad

1 A Framework for the Design of Software for Robotic Assembly

PhD Thesis, 1996

From the abstract: This thesis examines the problem of designing and building flexible sensor integration systems to support supervision and control of industrial robotic systems. Such systems typically involve a large number of diverse sensors generating large volumes of disparate raw data. Control of sensors, management and integration of the data, and making optimal use of it is a complex and difficult task. The thesis argues for sensor system design based on usage oriented modelling of sensory requirements, containment of sensor integration complexity through definition of increasingly abstract and independent levels of sensing, and the application of appropriate modern software engineering techniques. It further argues that the use of sensing in robot programming is independent of the provision of sensing services and proposes the modelling of generic sensor usage strategies and the design of general purpose and reconfigurable sensor systems to support these models.

1.1 Publications

- [*Robotica* 17\(6\):635-647](#)
- [*Autonomous Robots* 6\(3\):265-280](#)

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