



Confirmation of Master's Thesis carried out at ABB

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Time period: 2007 06 04 -- 2007 12 21
Division: ABB AB
BUU/Unit: Corporate Research
Department: Automation Technologies
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Scope of Thesis: 20 p.
Description of Thesis: **Test and develop diagnostic methods for industrial robots based on friction estimation**

The aim of this thesis has been to develop and validate a diagnostic test procedure for an industrial robot system by estimating friction forces in the joints. The work included the following topics:

- Literature survey, ABB internal and external sources.
- Develop a diagnostic test procedure for friction change detection.
- Validate test procedure on numerous robot individuals.
- Communicate/present results within ABB.
- Prepare implementation of test procedure into an ABB product.

André has shown excellent skills in signal processing and system modelling. This along with a great portion of engagement and commitment has clearly helped him to create a result exceeding our expectations. Besides technical skills André also possesses social skills and he has been an appreciated team member in the project.

Västerås 2007-12-21

Mats Källman
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