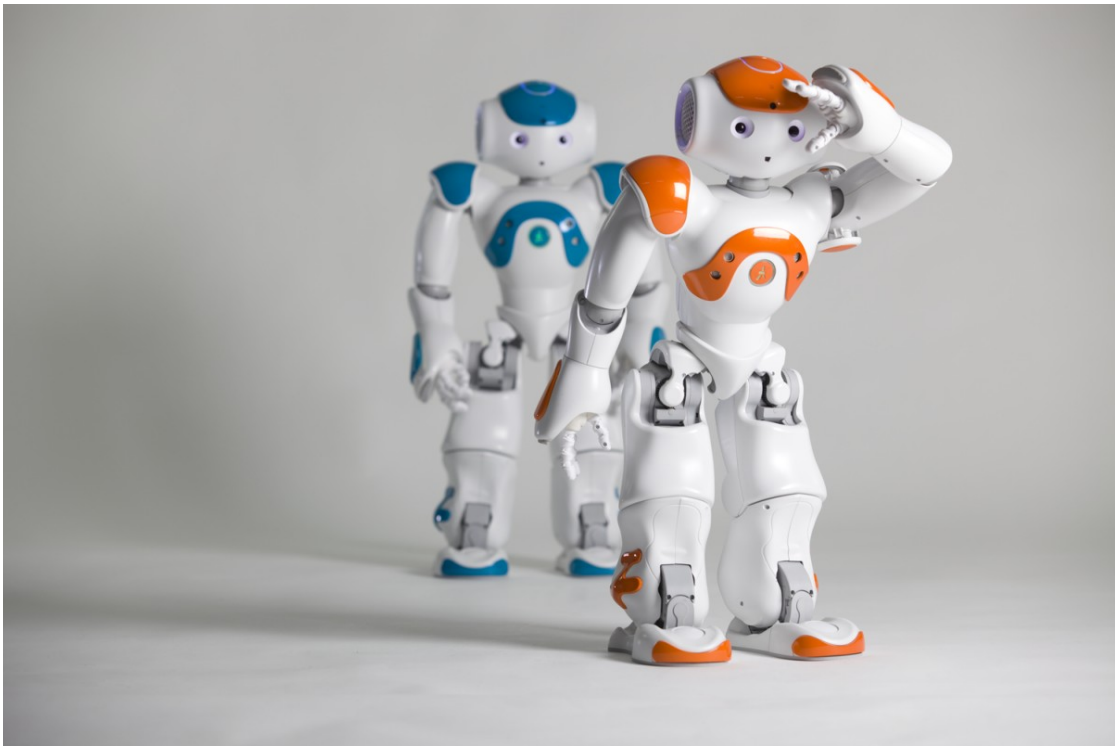
Collaborative Visual SLAM

Multi-Agent Visual Odometry and SLAM with humanoid robots.



A Artificial Intelligence project by Auke J. Wiggers, Camiel R. Verschoor, Chiel Kooijman and Steven Laan

Collaborative Visual SLAM

Multi-Agent Visual Odometry and SLAM with humanoid robots.
Project AI (6 EC)
Artificial Intelligence
Faculty of Science
University of Amsterdam

Chiel Kooijman
5743028
Chiel999@gmail.com

Steven Laan
6036031
S.Laan@uva.nl

Camiel Verschoor
10017321
Verschoor@uva.nl

Auke Wiggers
6036163
A.J.Wiggers@uva.nl

January 18, 2013

Contents

1 Introduction **5**

2 Related Work **5**

3 Theory **5**

4 Pipeline **5**
4.1 Calibration 5
4.2 Feature Extraction 5
4.3 Feature Matching 5
4.4 3D Map reconstruction 5
4.5 2D feature and 3D feature Matching 5

5 Experimental Setup **5**

6 Results **5**

7 Discussion **5**

8 Conclusion **5**

1 Introduction

2 Related Work

3 Theory

4 Pipeline

In this section, the pipeline of our proposed system is described stepwise.

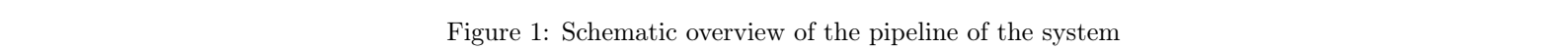


Figure 1: Schematic overview of the pipeline of the system

4.1 Calibration

4.2 Feature Extraction

4.3 Feature Matching

4.4 3D Map reconstruction

4.5 2D feature and 3D feature Matching

5 Experimental Setup

6 Results

7 Discussion

8 Conclusion