

MSBRDM - Group Project

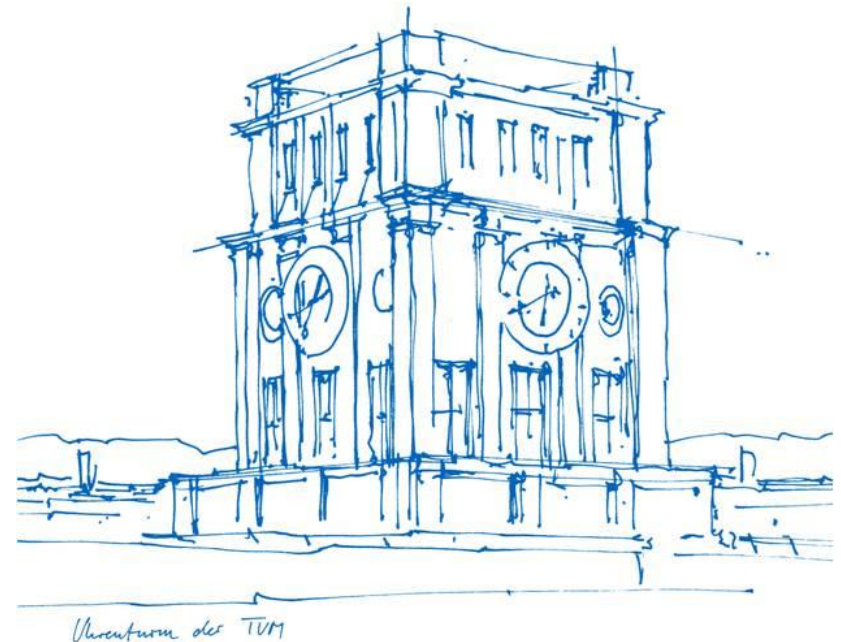
Maximilian Bader, Dominik Urbaniak, Hanyu Wang, Kazuki Zjalic

Technical University of Munich

Department of Electrical and Computer Engineering

Chair of Cognitive Systems

Munich, January 14th 2020



Bartender's Little Helper

1. Motivation

- *Ever waited too long for your drink in a bar?*
- *Ever got a awful mixture from your barkeeper?*

→ Here comes „***Bartender's Little Helper***“

- Fast & customized drinks
- Transparent pricing
- Safe human-robot interaction utilizing robot skin



Image source: <https://www.augsburger-allgemeine.de/wirtschaft/Hat-Kuka-die-Zukunft-verschlafen-id52970466.html> [Accessed: 01/13/2019]

Bartender's Little Helper

2. Functionalities

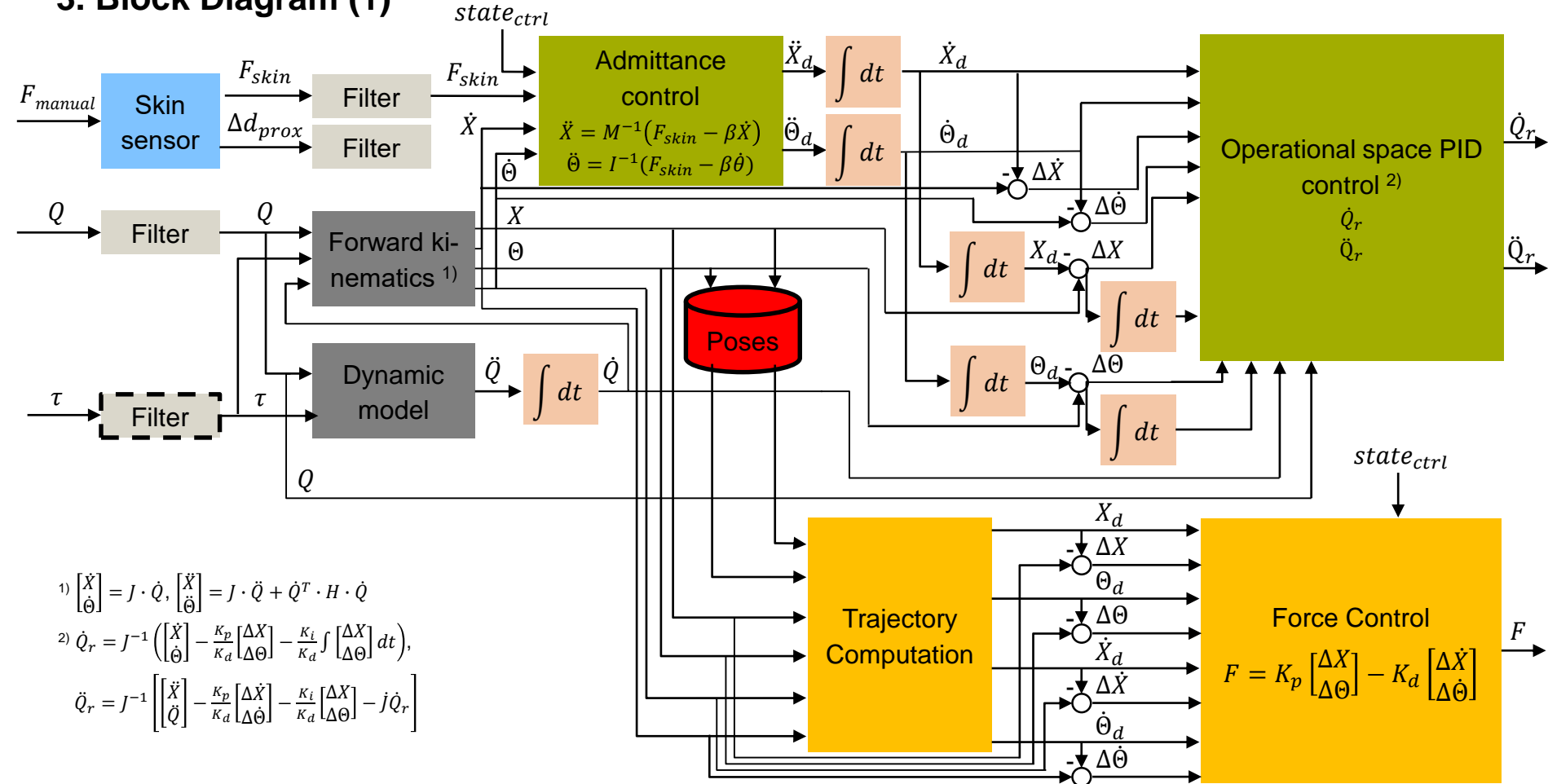
- Teaching task
 - Moving end effector to desired position & orientation (separate adjustability)
 - Switching between states by intuitive skin handling
 - Storing of grasping position & orientation
- Movement task
 - Movement along trajectory to stored position
 - Compensation of outer force influences
- Pouring task
 - Grasp bottle & pour drink into cup (position & orientation fixed)
- Advanced option: Computer vision
 - Improved robustness (e.g. visual based detection of orientation & position)



Image source: <http://www.abb.de/cawp/seitp202/143b844927b6e0bcc125738b00348d1b.aspx> [Accessed: 01/13/2019]

Bartender's Little Helper

3. Block Diagram (1)



Bartender's Little Helper

3. Block Diagram (2)

