Ajinkya Bhole

Control Design | System Dynamics

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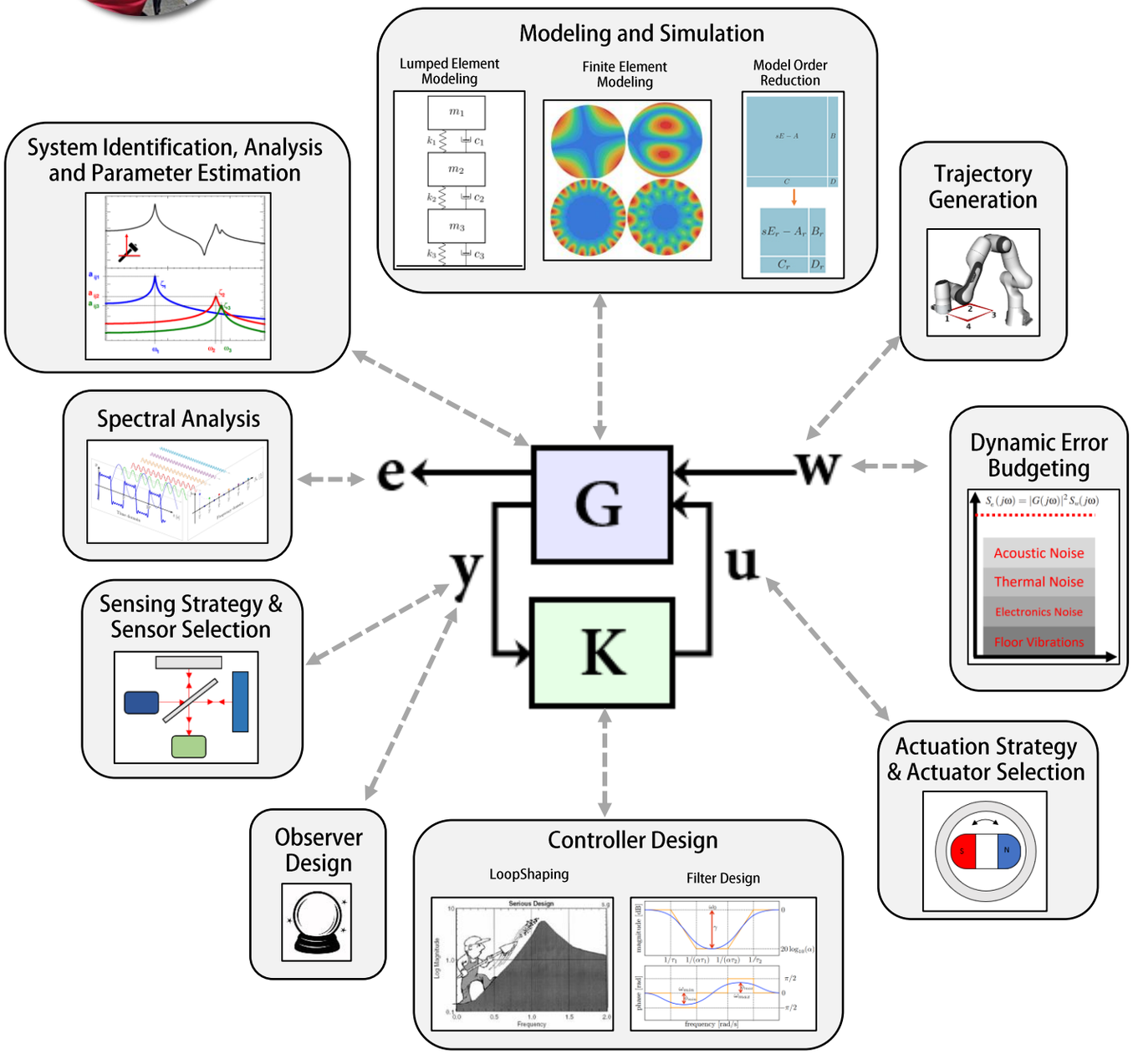

Programming & Tools

MATLAB, Ansys, Python, 20-sim, SOLIDWORKS, Arduino, PC, jupyter, ROS

Courses and Trainings

- Dynamics and Modeling (High Tech Institute 2022)
- Learning and Adaptive Control (DISC 2022)
- Mathematical Modeling of Systems (DISC 2023)
- Nonlinear Control Systems (DISC 2023)
- Nonlinear Control for Performance: Frequency Domain Approach (DISC 2023)

Education

2016 - 2018	MSc. in Systems and Control University of Twente, The Netherlands	GPA: 8.2/10
2018	MSc. Honours in Design University of Twente, The Netherlands	
2012 - 2016	B.E. Hons. in Mechanical Engineering BITS Pilani – Pilani Campus, India	GPA: 7.9/10

Publications

- Online Estimation of Impedance Parameters for a Variable Impedance Controlled Robotic Manipulator.
  A. Bhole, F. Ficuciello, A. Mashayekhi, S. Strano, M. Terzo, L. Villani, B. Sciciliano (IFIT 2018) Link
- Control of a Variable Stiffness Joint for Catching a Moving Object.
  A. Bhole, J. Kumle, S.S. Grothuis, R. Carloni (IROS 2018) Link
- Design of a Robust Stair Climbing Compliant Modular Robot to Tackle Overhangs on Stairs
  A. Bhole, S.H. Turlapati, V.S. Rajashekhar, J. Dixit, S.V. Shah, K.M. Krishna (Robotica 2018) Link

Thesis

- Masters Thesis: Towards KriCatch, A Slip Catching Practice System for the game of Cricket
  Advisors: Douwe Dresscher, Stefano Stramigioli (RAM Lab, University of Twente, The Netherlands)
- Bachelors Thesis: Design of a Robust Stair Climbing Compliant Modular Robot to Tackle Overhangs on Stairs
  Advisors: Suril V. Shah, K. Madhav Krishna (Robotics Research Center, IIIT Hyderabad, India)

Work

Feb 2019 – Present
System Engineer within Drive and Controls Group
Sioux Technologies B.V. Eindhoven, The Netherlands
- Facilitating design of multidisciplinary systems through Systems Engineering Process.

Systems Thinking | Concept Design Studies | Modeling and Simulation | System Budgeting | Control System Design and Implementation | Testing, Verification and Validation

July 2017 – Dec 2017
Research Intern
PRISMA Lab University of Naples Federico II, Naples, Italy
With Fanny Ficuciello, Luigi Villani and Bruno Sciciliano
- Realized Variable Impedance Control for a robotic manipulator (KUKA LWR) using the method of *energy-tanks*, a passivity-based technique.

Energy Tanks | Passivity-based control | Variable Impedance Control

Aug 2016 – Dec 2016
Research Assistant
RAM Lab University of Twente, The Netherlands
With Raffaella Carloni
- Designed and impelemented a control strategy to catch a flying object using an arm actuated by a variable stiffness actuator.

Variable Stiffness Actuators | Optimal Control

References

Fanny Ficuciello
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Raffaella Carloni
Associate Professor
Bernoulli Institute for Mathematics, Computer Science and AI
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