PERSONAL INFORMATION

Zhongmou LI

Ph.D candidate in Robotics

zhongmou.li@ls2n.fr

zhongmouli.github.io

Date of birth 19 Jan 1990 | Nationality China

EDUCATION

Nov 2017 – Mar 2021 — **Ph.D. Student in Robotics**

Institution: Le Laboratoire des Sciences du Numérique de Nantes (LS2N-CNRS), France

Subject: Theoretical developments and experimental evaluation of a novel collaborative multi-drones grasping and manipulation system of large objects

Research:
- Designed controllers and allocators for a novel aerial manipulation robot Flying Gripper
- Analyzed manipulation capacity of the robot Flying Gripper using convex analysis techniques
- Applied control and allocation methods in real-time experiments
- Supervised master students on Model Predict Control and Control Allocation

Sep 2015 – Aug 2017 — **M.Sc in Advanced Robotics**

Institution: Centrale Nantes, France

Thesis: Motion planning and control of a Flying Parallel Robot

Sep 2013 – Apr 2015 — **M.Sc in Navigation, Guidance and Control**

Northwestern Polytechnical University, China

Sep 2009 – Aug 2013 — **B.Eng in Detection Guidance and Control Technology**

Northwestern Polytechnical University, China

PUBLICATIONS

[1] Zhongmou Li, Xiaoxiao Song, Vincent Begoc, Abdelhamid Chriette, and Isabelle Fantoni. “Dynamic Modeling and Controller Design of a novel aerial grasping robot”. In: *23rd CISM IFToMM Symposium on Robot Design, Dynamics and Control (RoManSy 2020)*. Sapporo, Japan, Sept. 2020.

[2] Zhongmou Li, Vincent Begoc, Abdelhamid Chriette, and Isabelle Fantoni. “Theoretical developments and experimental evaluation of a novel collaborative multi-drones grasping and manipulation system of large objects”. (In preparation).

[3] Zhongmou Li, Vincent Begoc, Abdelhamid Chriette, and Isabelle Fantoni. “Wrench Analysis for Aerial Manipulation Robots with Underactuated Quadrotors”. (In preparation).

HONORS AND FUNDINGS

Sep 2020 — Best Student Paper Award

23rd CISM IFToMM Symposium on Robot Design, Dynamics and Control 2020

Nov 2017– Nov 2020 — Ph.D funding of China Scholarship Council

RESEARCH SKILLS

Real-time Experiment
- Quadrotors
- Dynamic identification for self-developed quadrotors
- Implementation of control methods in ROS (C++) in real-time experiments

Programming
- ROS
- C++
- Matlab & Simulink
- Msc Adams
- Linux scripts

Control
- Linear, Non-linear Control
- Adaptive Control
- Sliding Model Control
- Model Predictive Control

WORK EXPERIENCE

Nov 2017 – Today

Lab Assistant Teacher

Employer: Centrale Nantes, France

Instructed lab sessions for robotics master and engineering students including theoretical explanation and simulation demonstration

- Advanced modeling of robots
- Nonlinear control theory
- Control of linear multi-variable systems

Feb 2017 – Aug 2017

Research Assistant

Employer: LS2N Nantes, France

Research
- Modeled a flying parallel robot consisting of quadrotors joined by passive links
- Conducted motion planning considering dynamic constrains and payload limitations

LANGUAGE

Mother tongue: Chinese

Other languages: English C1 (Proficient user) French B2 (Independent user)