YANG ZHANG

Date of birth: 14 Jan 1998 | **Nationality:** Chinese | **Gender:** Male | **Email address:**

toby.yang.zhang@outlook.com |

Address: 5 Zhongguancun South Street, Haidian District, Beijing, China, 100081, Beijing, China

● WORK EXPERIENCE

1 MAY 2020 – 1 MAY 2021 Shanghai, China
PROJECT TECHNICAL BACKBONE SHANGHAI ACADEMY OF SPACEFLIGHT
TECHNOLOGY (SAST)

- Building a dynamics model program to simulate the debris tethered-towing system
- Analyzing the dynamic characteristics of the system to provide a theoretical reference
- Designing a controller to stabilize the attitude of the debris and suppress the vibration of the solar panel during the towing process

1 SEP 2020 – 1 JUL 2023 Beijing, China
MASTER STUDENT BEIJING INSTITUTE OF TECHNOLOGY (BIT)

Topic: Safe and Stable tether towing control of defunct spacecraft
- Optimized system dynamic models to ensure efficiency
- Designed a novel wave-based controller to achieve control objectives fast
- Took into account the effects of uncertainty when controlling debris towing processes

1 OCT 2020 – 20 MAR 2021 Beijing, China
TEACHING ASSISTANT DISTRIBUTED SPACECRAFT SYSTEM TECHNOLOGY
RESEARCH LAB, BIT

- Assisting with the daily teaching activities for the Spacecraft Orbital Dynamics Course
- Participating in professional knowledge Q&A

1 APR 2021 – 1 SEP 2022 Beijing, China
STUDENT TUTOR DISTRIBUTED SPACECRAFT SYSTEM TECHNOLOGY RESEARCH
LAB, BIT

- Providing professional guidance to undergraduate students who participated College Student Innovation and Entrepreneurship Competition Project for spacecraft multifunctional services and satellite maneuver control during the project
- Helping undergraduate students with spacecraft manoeuvring and control challenges in their graduation projects

1 NOV 2021 – 6 JAN 2022 Beijing, China
PROJECT TECHNICAL BACKBONE CHINA ACADEMY OF SPACE TECHNOLOGY
(CAST)

- Designing a collaborative decision control scheme for the orbital manoeuvre of satellite constellations
- Researching on the implementation method of lightweight neural networks in satellite constellations

EDUCATION AND TRAINING

1 SEP 2020 – 1 JUL 2023 Beijing, China

MECHANICAL ENGINEERING IN AEROSPACE ENGINEERING (M.SC.) Beijing Institute of Technology

Address 5 Zhongguancun South Street, Haidian District, Beijing, China, 100081, Beijing, China │

Website https://bit.edu.cn │ **Field of study** Spacecraft Dynamics and Control │ **Final grade** GPA: 3.88/4 │

Thesis Dynamics Analysis and Control Strategy for Safely Towing a Defunct Satellite with Solar Panels by Tethers

1 SEP 2016 – 1 JUL 2020 Beijing, China

FLIGHT VEHICLE DESIGN AND ENGINEERING (B.SC.) Beijing Institute of Technology

Address 5 Zhongguancun South Street, Haidian District, Beijing, China, 100081, Beijing, China │

Website https://bit.edu.cn │ **Field of study** Flight Vehicle Design and Engineering │

Thesis Simplified model and dynamic analysis of tether net towing for defunct spacecraft with solar panels

LANGUAGE SKILLS

Mother tongue(s):   **CHINESE**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Matlab/Simulik │ Microsoft Office │ C++ │ Python │ Solidworks software │ Adobe Premiere

ADDITIONAL INFORMATION

PUBLICATIONS

Design and Robustness Analysis of a Wave-Based Controller for Tethered Towing of Defunct Satellites

– 2023
- Took into account the effects of uncertainty when controlling debris towing processes
- Studied the impact of various uncertainty factors on towing system robustness

Wave-based Control for Tethered net Towing of Defunct Satellites with Solar Panels – 2022
- Designed a novel wave-based controller to achieve control objectives fast
- Simultaneously suppressed complex coupled system oscillations to improve system safety

Tethered Towing of Defunct Satellites with Solar Panels – 2020
- Established a more accurate dynamic model considering satellite flexible panels
- Optimized system models to ensure efficiency