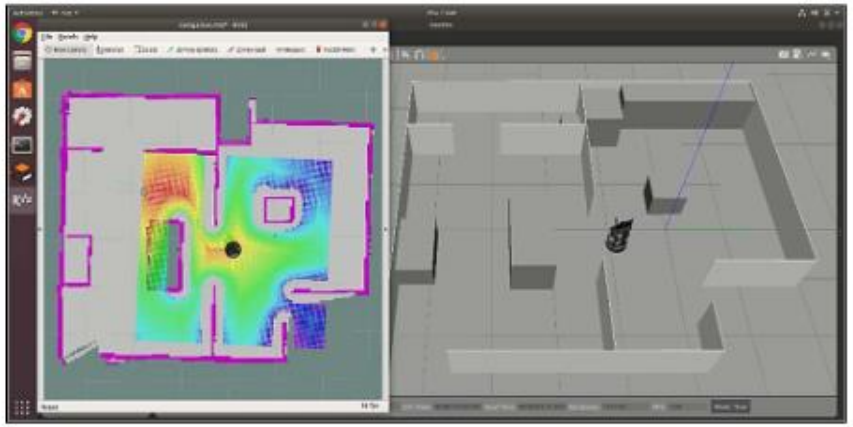

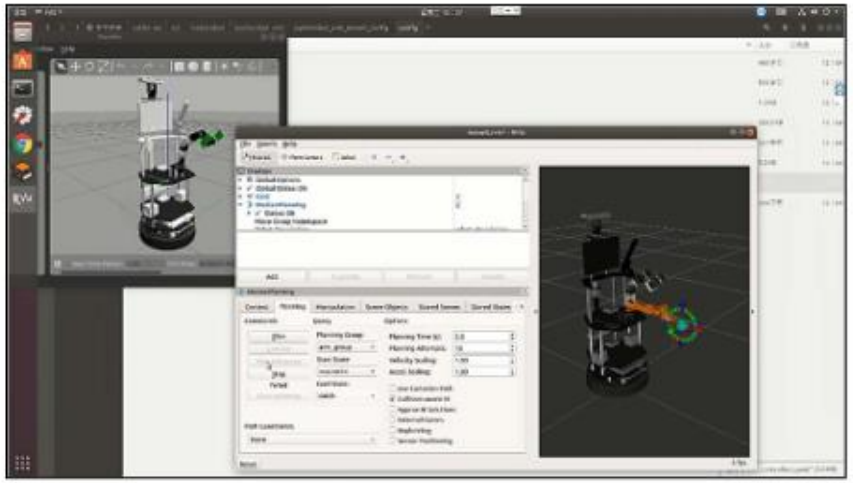

Arab Academy for Science, Technology & Maritime Transport

AASTMT AI Robotics Workshop

Arab Academy
for Science, Technology and Maritime Transport

lattel
::{ROBOTICS}

Lattel Robotics

26 Feb 2022 | Jeffrey Tan

Jeffrey TAN Too Chuan（陈图川）

Profile

[Education Background]

2007 - 2010 **The University of Tokyo (Japan)**, Department of Precision Engineering, Doctor of Engineering
2004 - 2007 **Universiti Tenaga Nasional (Malaysia)**, Master of Mechanical Engineering
1999 - 2003 **Universiti Tenaga Nasional (Malaysia)**, Bachelor of Mechanical Engineering (Hons.)

[Working Experience]

2021 - Present Visiting Professor, City University (Malaysia)
2020 - Present Director, AI Robotics Research Centre, MyEdu Group (Malaysia)
2017 - 2021 Research Fellow, Tamagawa University (Japan)
2017 - 2020 Associate Professor, Nankai University (China)《天津市青年千人计划》
2014 - 2017 Project Assistant Professor, Institute of Industrial Science, The University of Tokyo (Japan)
2015 - 2017 Adjunct Lecturer, Tokyo City University (Japan)
2013 - 2014 Project Researcher, Institute of Industrial Science, The University of Tokyo (Japan)
2011 - 2013 Project Researcher, National Institute of Informatics (Japan)
2010 - 2011 Project Researcher, Graduate School of Engineering, The University of Tokyo (Japan)
2004 - 2007 Tutor, Universiti Tenaga Nasional (Malaysia)

[Professional Services]

2019 - Present Organizing Committee, **RoboCup China (@Home)**
2016 - Present Committee (Service and Junior), **World Robot Summit**
2016 - 2019 Organizing Committee, **RoboCup Federation (@Home)**
2015 - Present Organizing Committee, **RoboCup@Home Education**
2014 - Present Organizing Committee, **RoboCup Japan (@Home)**

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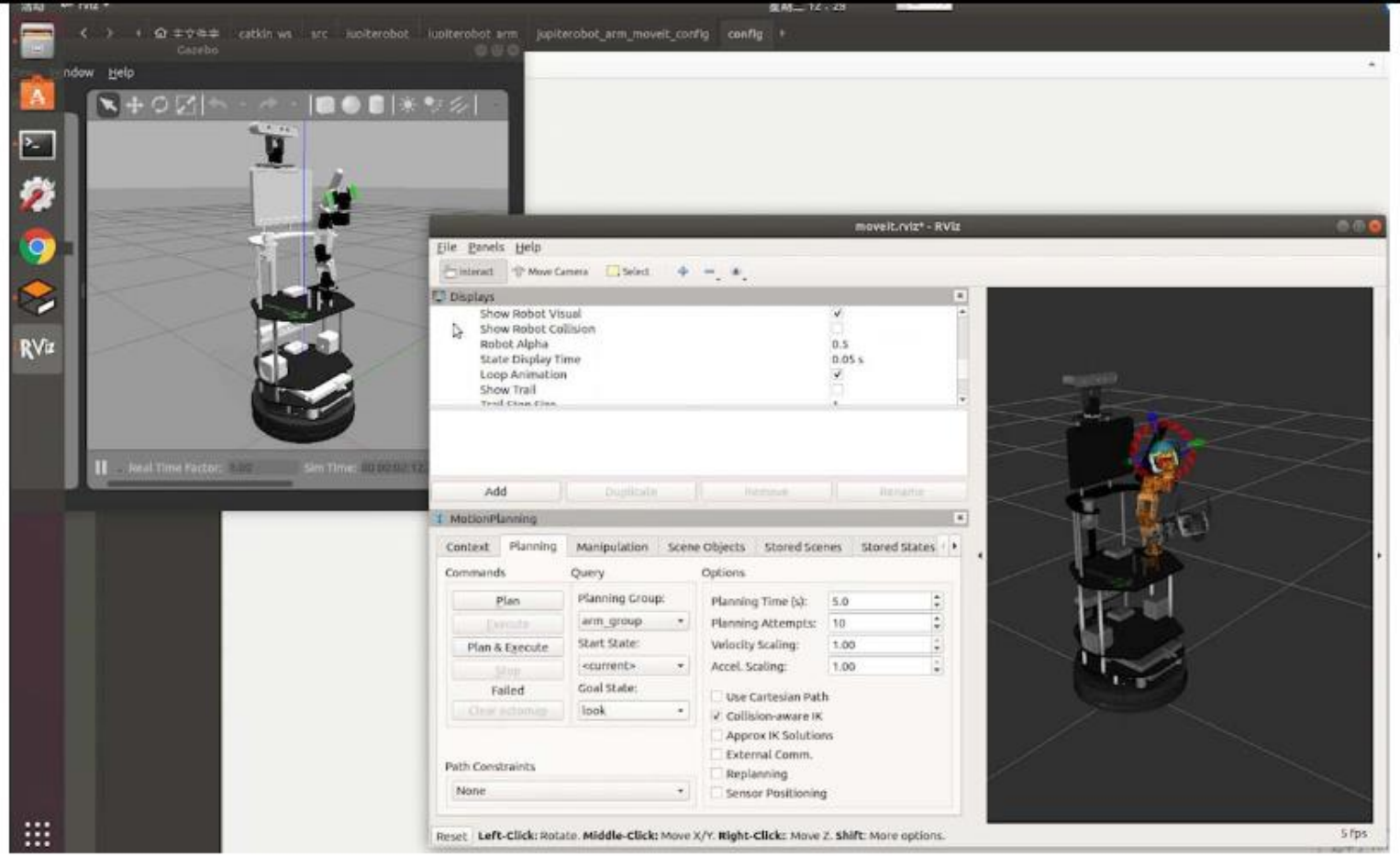

JUPITER AI ROBOTICS SYSTEM

Jupiter AI Robotics System

Jupiter Robot

Jupiter IO

Jupiter OS

Jupiter AI Robotics System

JUPITER ROBOT

http://www.jupiterobot.com/

Jupiter OS

Jupiter Robot

Robot Intelligence
AI, Machine Learning, Cloud Computing

Natural Interaction
Speech Interaction

Computer Vision
Visual Perception, Object Recognition

Mobile Platform
SLAM, Navigation

Robot Arm
Object Manipulation

Jupiter IO

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Jupiter AI Robotics System

Jupiter Robot

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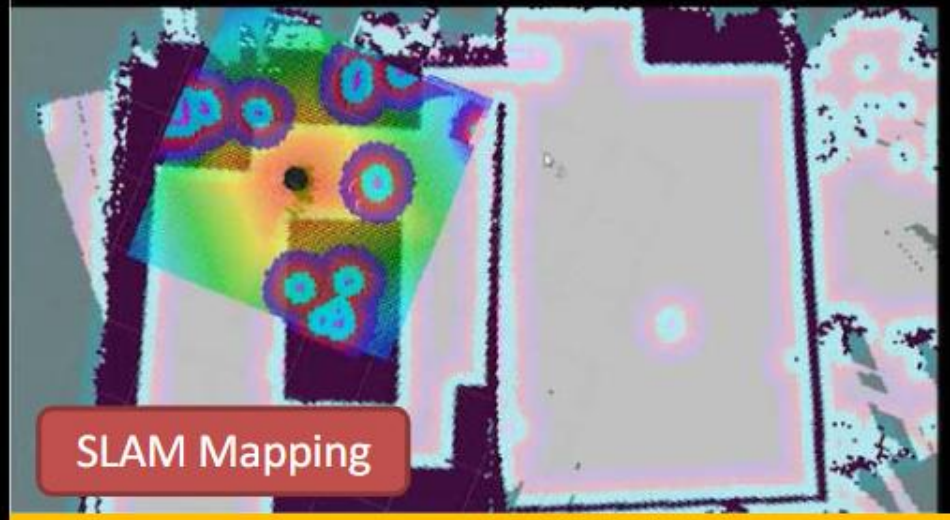
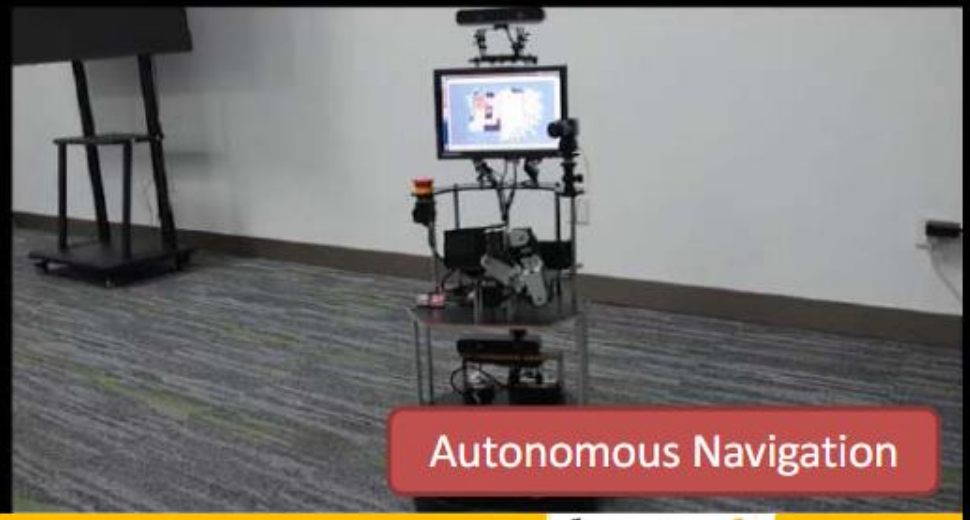
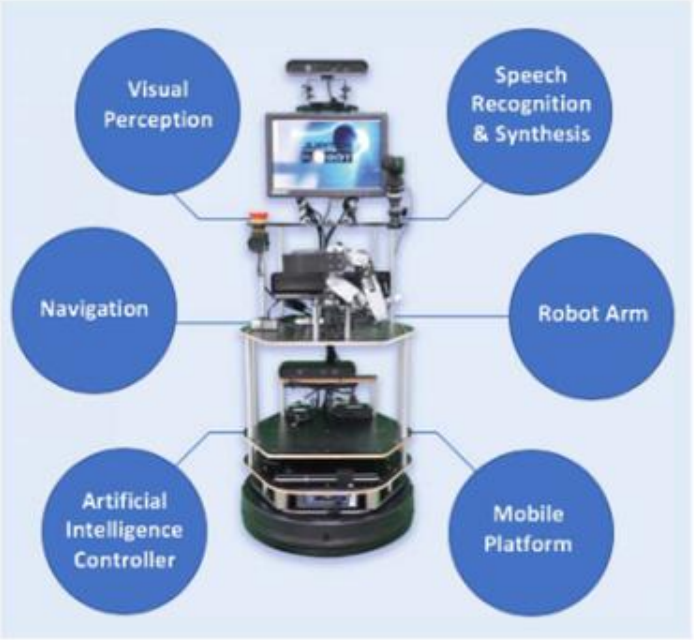




Jupiter Robot

Technical Specifications

SIZE AND WEIGHT		
EXTERNAL DIMENSIONS (L x W x H)	352 x 352 x 920 mm(14 x 14 x 36 in)	
WEIGHT	10.3kg (22.7lb)	
GROUND CLEARANCE	15 mm (0.6 in)	
SPEED AND PERFORMANCE		
UNIT MOBILE BASE	Kobuki	
MAX. PAYLOAD	5 kg (11 lb)	
MAX. SPEED	0.5 m/s (1.6 ft/s)	
MAX. ROTATIONAL SPEED	160°/S	
BATTERY AND POWER SYSTEM		
STANDARD BATTERY	4400 mAh Li-Ion	
EXTENDED BATTERY	4400 mAh Li-Ion	
USER POWER	5 V (1A), 12 V (1.5A), 12V (5A) and 19V(2A)	
SENSORS		
3D VISION SENSOR x 2	Color Camera: 640px x 480px, 30 fps.	Depth Camera: 640px 480px, 30 fps
ENCORDERS	25700 cps	11.5 ticks/mm
RATE GYRO	110 deg/s Factory Calibrated	
AUXILIARY SENSORS	3x forward bump, 3x cliff, 2x wheel drop	

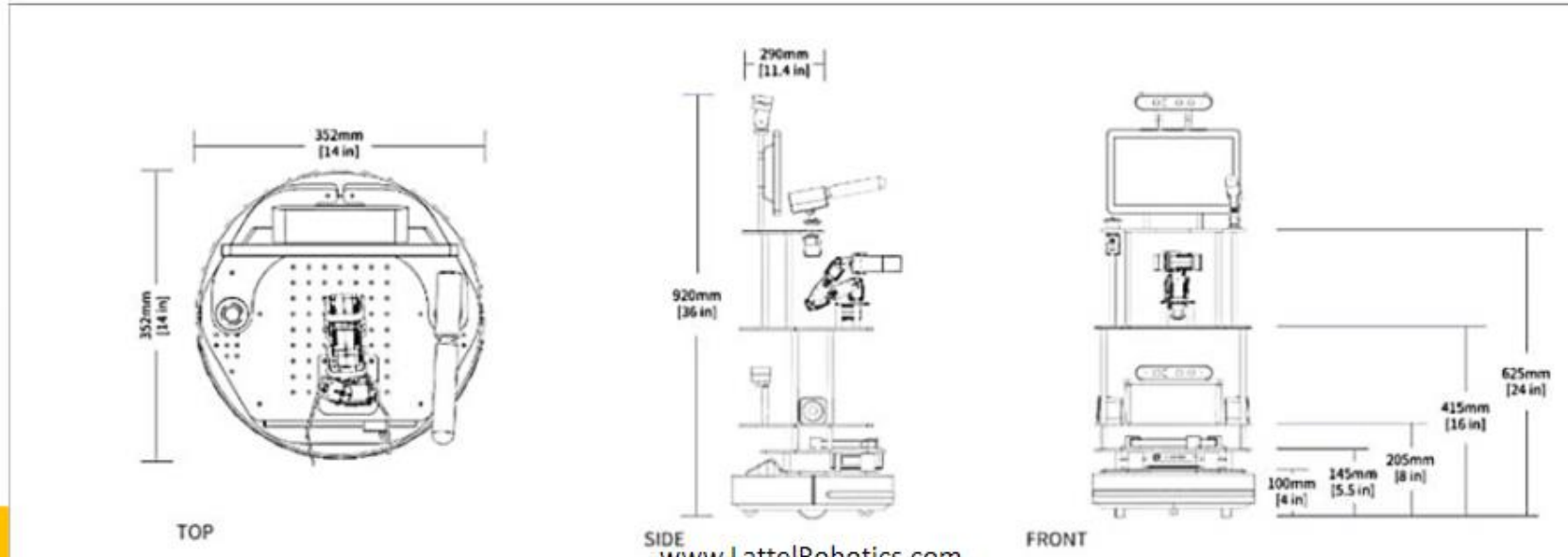


Jupiter Robot

Technical Specs

COMPUTER	
PROCESSOR	Intel Core i5-10210U
MEMORY	8G
INTERNAL HARD DRIVE	120G SSD
WIFI	802.11ac
SCREEN	10.1in Touch Screen(1920*1080)
Robot Arm	
SERVOS	5 pcs
EXTERNAL DIMENSIONS (L x W x H)	32mm x 50mm x 40mm
ACCURACY	0.29°
Speech Interaction	
Frequency Response	50Hz-16kHz
Wifi Remote Controller	
Transmission Rate	300Mbps

LIDAR:
Brand: SLAMTEC
Model: A2M8-R4



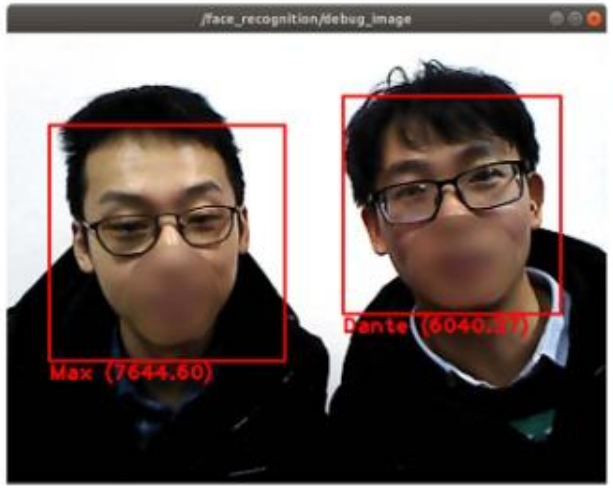
Jupiter AI Robotics System

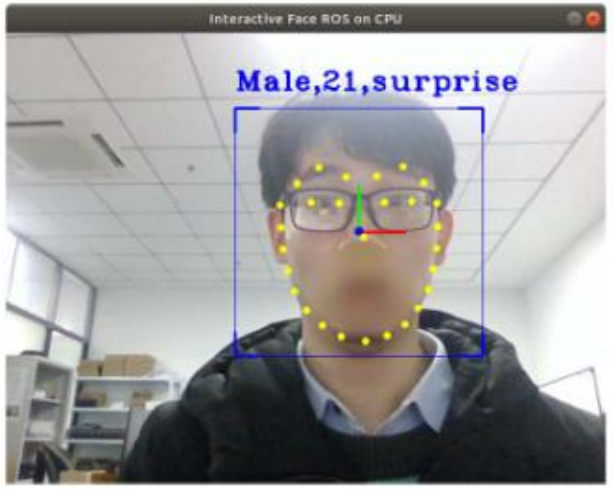
Jupiter IO

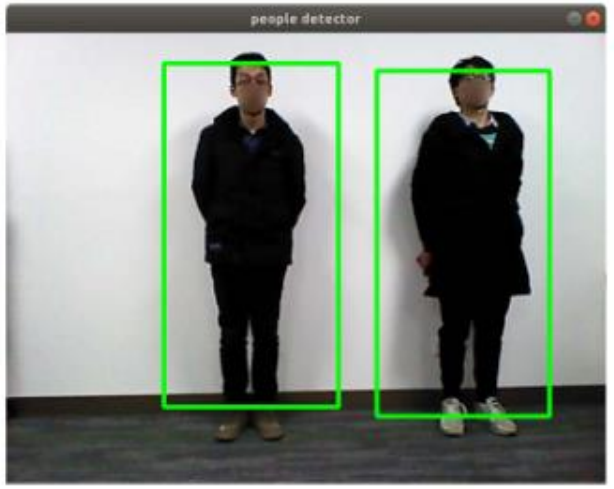
Jupiter AI Robotics System

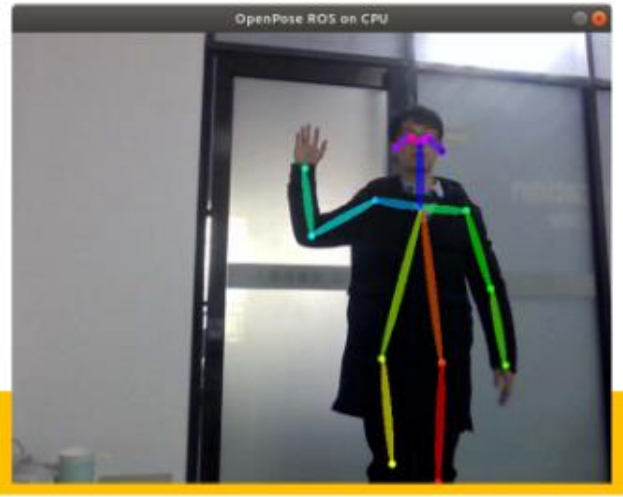
Jupiter IO

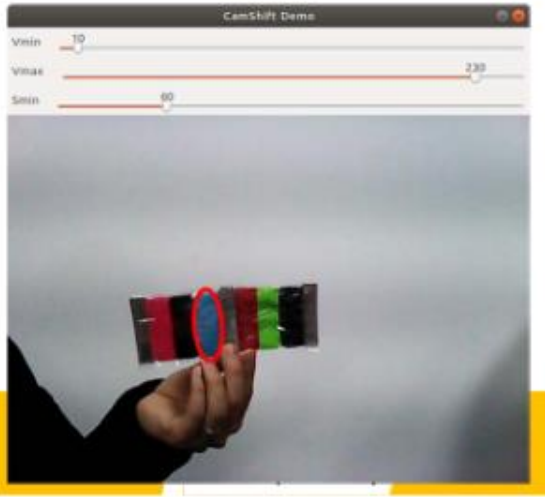
Computer Vision







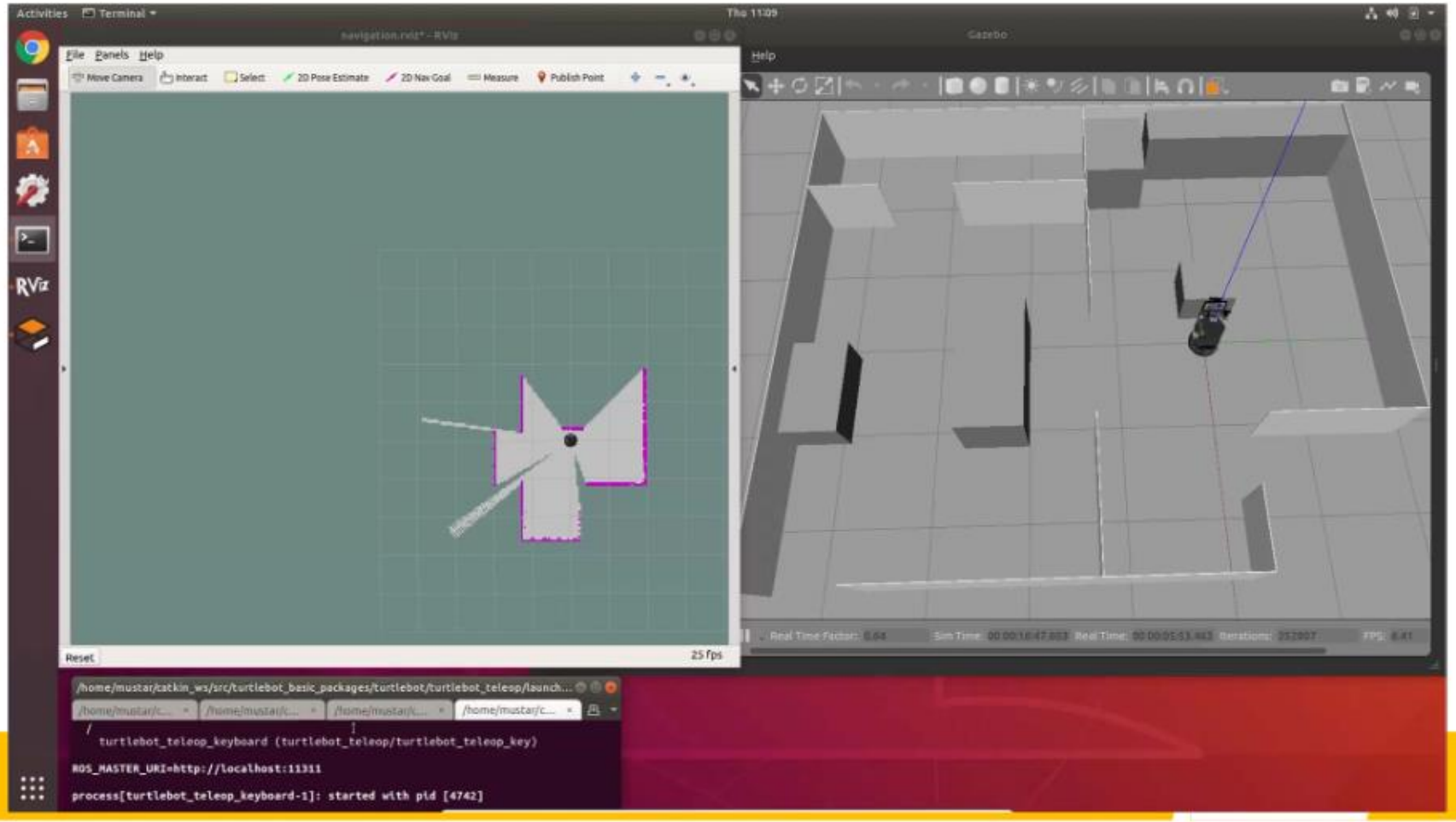




Jupiter AI Robotics System

Jupiter IO

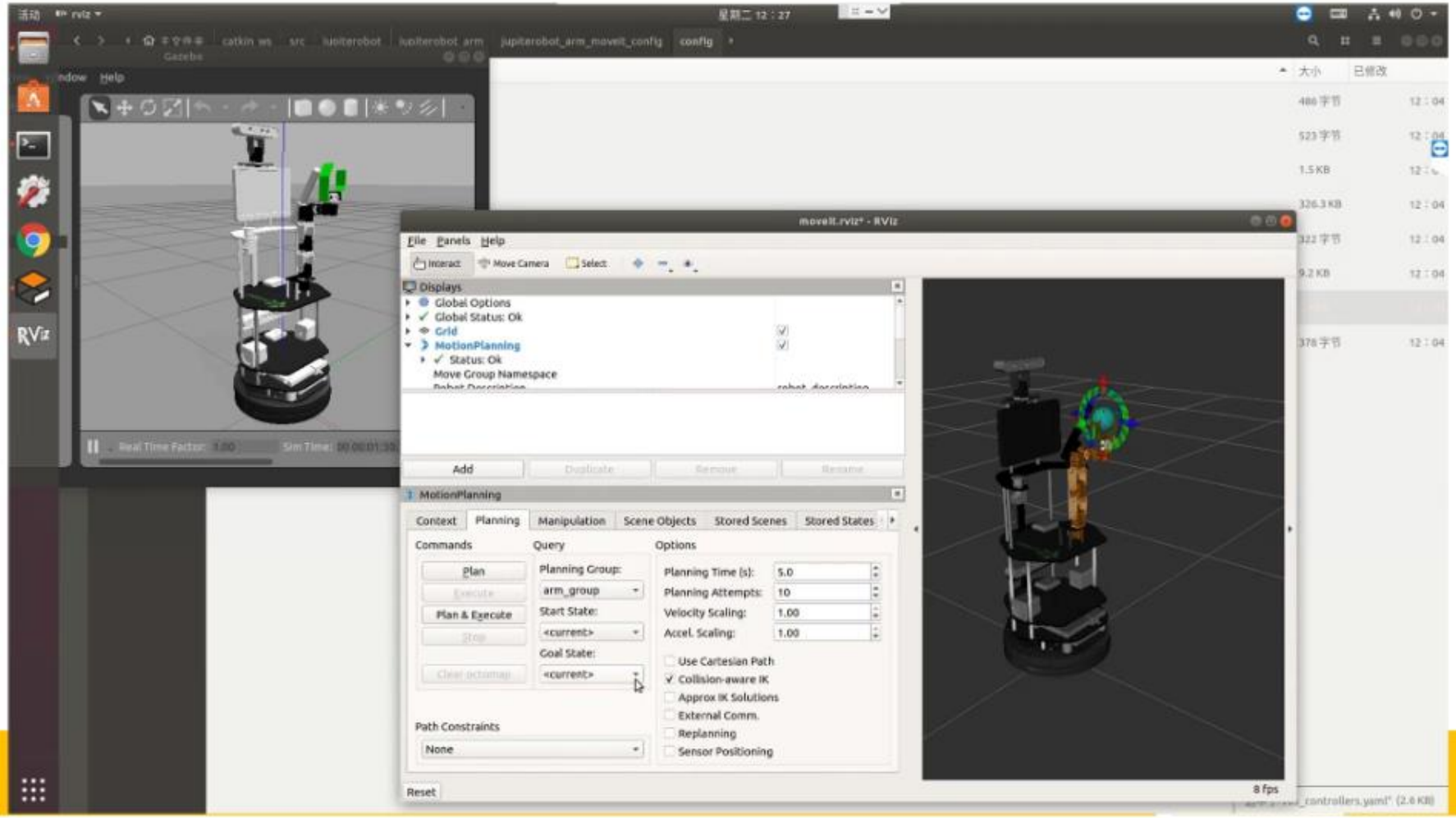
Virtual Robot Navigation



Jupiter AI Robotics System

Jupiter IO

Virtual Robot Arm



Jupiter IO

Technical Specifications

SIZE AND WEIGHT	
EXTERNAL DIMENSIONS (L x W x H)	115 x 88 x 108 mm
WEIGHT	0.3 kg
BATTERY AND POWER SYSTEM	
USER POWER	USB 3.0 Port
SENSORS	
3D VISION SENSOR	Color Camera: 640px x 480px, 30 fps
	Depth Camera: 640px x 480px, 30 fps
STORAGE DEVICES	
INTERNAL HARD DRIVE	120G SSD
OPERATING SYSTEM	
SYSTEM	Ubuntu
SPEECH INTERACTION	
SPEAKER	2W*2 *
MICROPHONE	Omnidirectional
FREQUENCY RESPONSE	50Hz-20kHz
WIFI REMOTE CONTROLLER	
TRANSMISSION RATE	150Mbps

Jupiter AI Robotics System

Jupiter OS

Dev. Environment (Software)

- Ubuntu 18.04
- ROS Melodic
- TurtleBot2
- TurtleBot Arm (MoveIt!)
- Robot Model in Gazebo
- OpenCV
- Yolo v3
- OpenPose
- OpenVino
- PocketSphinx
- Etc.

Jupiter AI Robotics System

Jupiter Robot - Jupiter IO - Jupiter OS

Jupiter Robot Development Environment (Software)