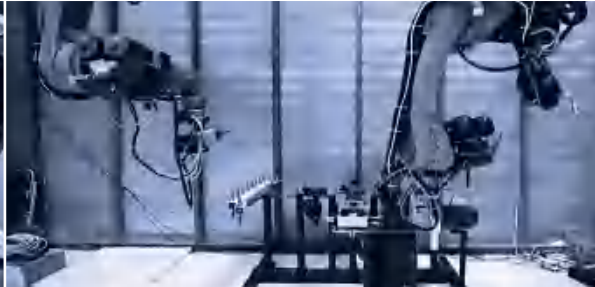
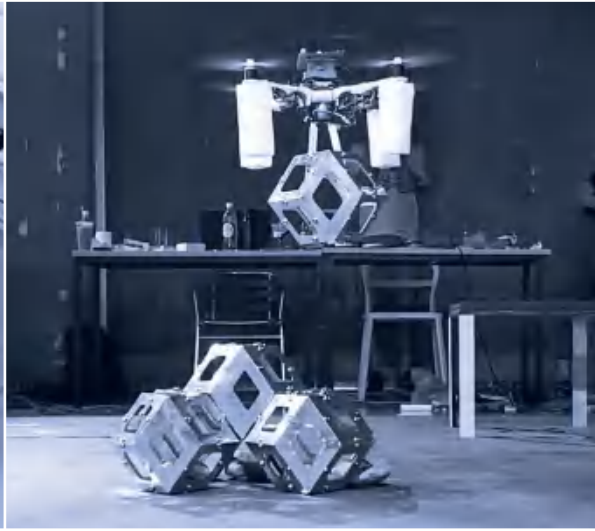
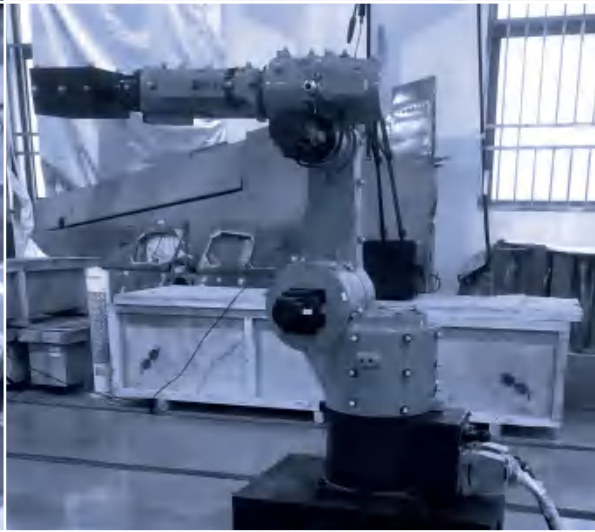
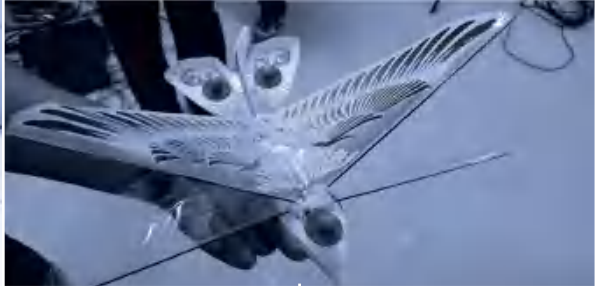




NOKOV

Motion Capture System

Applications in Robotics and UAV

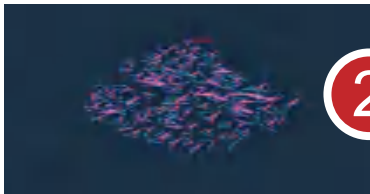


NOKOV *Optical Motion Capture System*



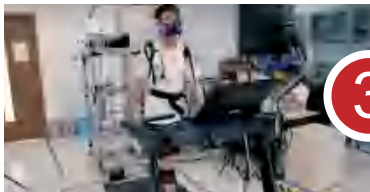
1

Sub-millimeter, low-latency 6DoF positional data



2

Creation of multiple rigid bodies with one-click



3

Multimodal integration with synchronized access to various biomechanical devices



4

Integration of complex scenes



5

Suitable for large-scale, underwater, and outdoor environments



Formation and Collaborative Control of Robot Clusters



Passive wheeled TABV trajectory planning and control
FAST Lab, Zhejiang University



Distributed control and formation
Beihang University



Autonomous obstacle navigation by unmanned vehicle clusters
Institute of Automation, Chinese Academy of Sciences



Collaborative control among multiple agents
Beijing Institute of Technology



Networked collaborative control of multiple agents
Beijing Institute of Technology



Control of swarm robotics clusters
Northwestern Polytechnical University



Mobile Robots



Indoor UAV positioning
Tsinghua University

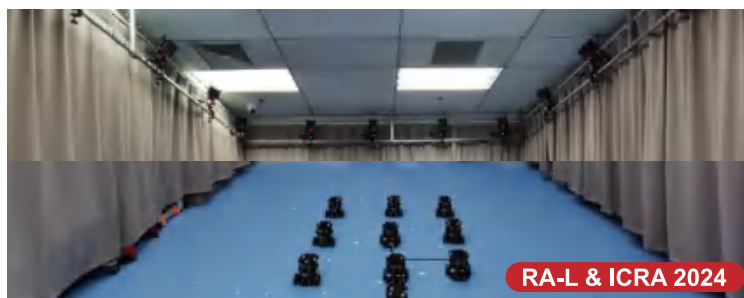


Indoor UAV positioning
Shanghai Jiao Tong University



RA-L & ICRA 2024

Dynamic obstacle avoidance algorithm
Harbin Institute of Technology, Shenzhen

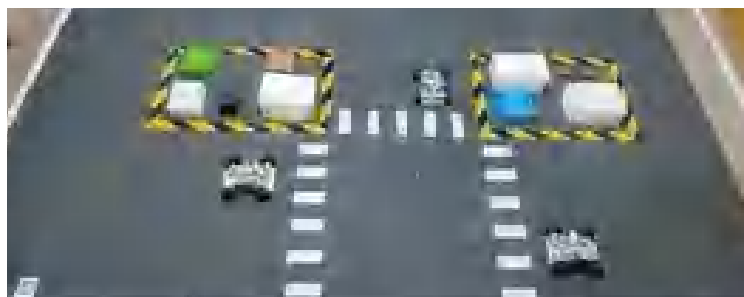


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Multi-robot formation
Beihang University



Intelligent transportation systems
China Automotive Technology and Research Center

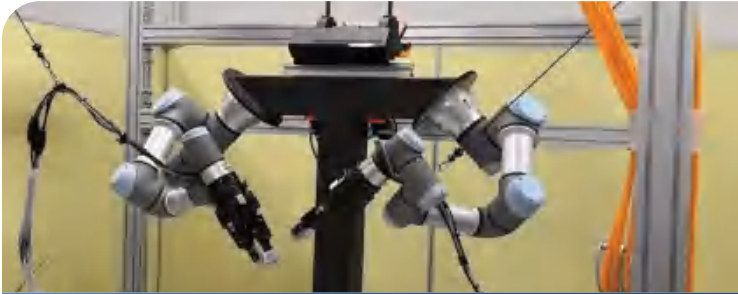


Collaborative trajectory planning
Hunan University





Robotic Arms



Teaching and learning with collaborative robotic arms
Osaka University



Assembly robot learning for component assembly
Harbin Institute of Technology, Shenzhen



Human-robot collaborative manufacturing
The Hong Kong Polytechnic University



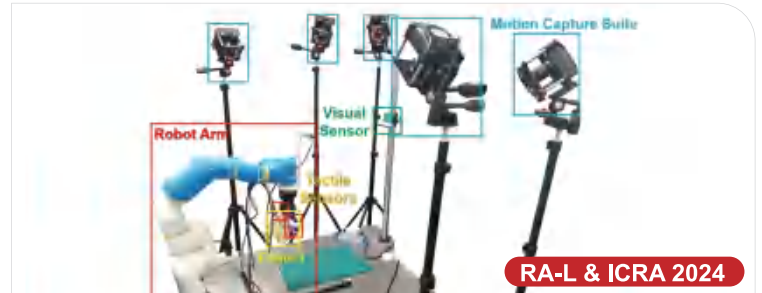
End-effector positioning of robotic arms
Sichuan University



Pose Detection



Pose detection using satellite vision technology
Beihang University



RA-L & ICRA 2024

Enhancing generalizable 6D pose tracking
Tsinghua University



Application Scenarios and User Cases

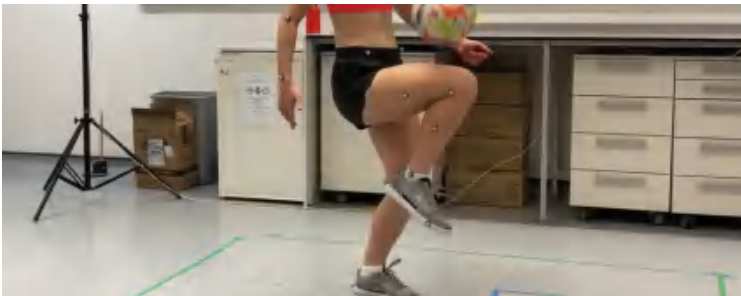
Exoskeleton and Rehabilitation Robotics



Medical rehabilitation robotics
Nankai University



Hip-assisted exoskeleton systems
Southern University of Science and Technology



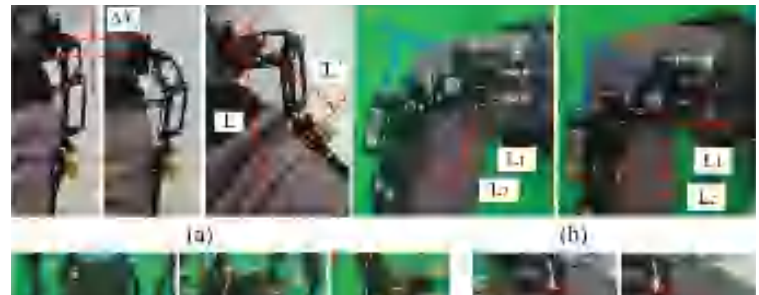
Medical robots
University of Oxford



Rehabilitation robots
Gwangju Institute of Science and Technology, Korea



Back exoskeleton
Nanjing University of Science and Technology



Mechanical exoskeletons
Harbin Institute of Technology



Bionic Robots



Hexapod robots
Shanghai Jiao Tong University



Quadruped robots
Shandong University



Large-space flapping-wing robots
Harbin Institute of Technology, Shenzhen



Robotic dolphins
Shenzhen University

Maritime and Underwater Applications



Underwater robotic positioning
Harbin Institute of Technology, Shenzhen

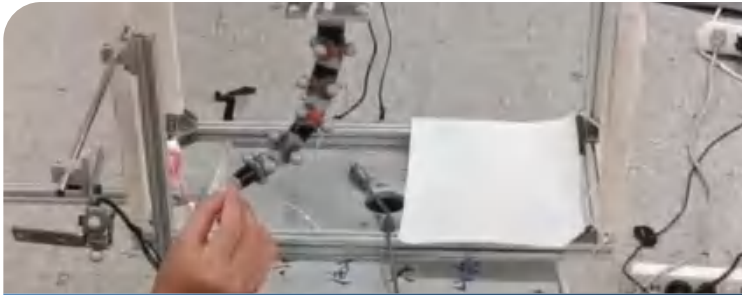


Tunnel motion and deformation measurement
Tianjin Research Institute for Water Transport Engineering

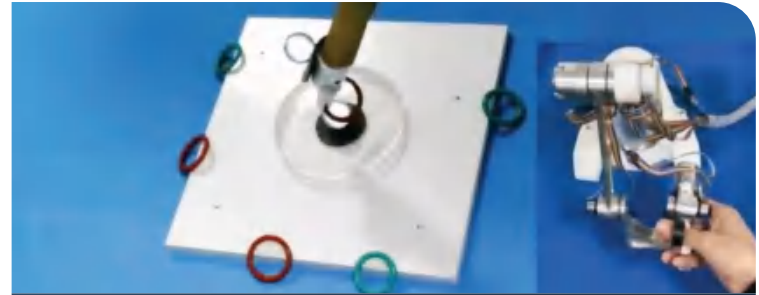


Application Scenarios and User Cases

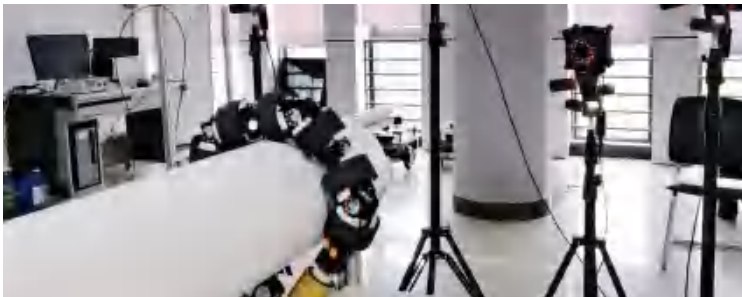
Soft Robots



Flexible robotic arms
Shanghai Jiao Tong University



Surgical robots
Jilin University



Snake robots
China University of Mining and Technology



Snake motion capture and development of snake robots
Changchun University of Science and Technology

Inspection Robots



Air-ground collaborative inspection robots
Wuhan University of Science and Technology



Power line inspection solutions
China Electric Power Research Institute



Intelligent Agent Dashboard



- 1 Bind rigid bodies
- 2 Bind devices
- 3 Select device type
- 4 Device battery level
- 5 Pitch and roll angles
- 6 Acceleration
- 7 Speed
- 8 Height
- 9 Climb rate
- 10 Yaw angle
- 11 Speed
- 12 Pitch and roll angles
- 13 Yaw angle

- Supports binding of rigid bodies
- Graphical representation of real-time data
- Provides synchronized reference video

Enhanced Data Transfer

SDK

VRPN



C++

Python

Matlab

Simulink

LabView

Raspberry Pi

Flexible Body Capture

- Support for custom models
- Model training capability
- Compatibility with diverse biomechanical devices
- Minimize data post-processing



1 Multi-segment flexible robotic arms

2 Soft robotics

3 Quadrupeds and soft-bodied creatures

4 Flexible bodies like ropes

Enhanced Data Transfer

ROS
ROS2
ROS / ROS2



Linux



Windows



Mac



Android



Crazyflie



PX4

Multimodal Data Integration

- Compatibility with diverse biomechanical devices
- Achieve data integration and synchronized acquisition
- Independent control of varied data sources

MULTIPLE OUTPUT FORMATS



Offices and Distributors



Beijing



Shanghai



Wuhan



Shenzhen



Japan



Korea



France



Spain



Thailand



Russia



India

After-Sales Training

Regular online and onsite training sessions



NOKOV's Service Edge

7·24

24/7 localized technical support

DESIGN

Customized solutions for complex scenarios



Accessory procurement



Installation and operation guides



Academic paper repository access



MARS Series Motion Capture Cameras

Scientifically engineered for core motion capture performance



Model	P/N	Pixels MP	Resolution	Frame Rate FPS	Latency ms	3D Accuracy mm	Max Distance m	FOV
MARS 1.3H	Mars 1.3H	1.3	1280×1024	240	4.0	±0.2	11	56°×46°
	Mars 1.3HW	1.3	1280×1024	240	4.0	±0.3	6	95°×74°
MARS 2H	Mars 2H	2.2	2048×1088	380	2.4	±0.15	21	70°×40°
	Mars 2HW	2.2	2048×1088	380	2.4	±0.25	15	104°×55°
MARS 4H	Mars 4H	4	2048×2048	180	5.2	±0.1	32	52°×52°
	Mars 4HW	4	2048×2048	180	5.2	±0.25	20	90°×90°
MARS 9H	Mars 9H	9	4250×2160	300	3.0	±0.05	28	68°×37°
MARS 18H	Mars 18H	18	4508×4096	139	5.0	±0.04	28	52°×47°
	Mars 18HW	18	4508×4096	139	5.0	±0.15	18	90°×82°
MARS 26H	Mars 26H	26	5120×5120	150	4.0	±0.03	30	56°×56°
	Mars 26HW	26	5120×5120	150	4.0	±0.1	20	105°×105°

Underwater Cameras

Tested for 100m depth and versatile for use in all aquatic environments



Model	P/N	Pixels MP	Resolution	Frame Rate FPS	Latency ms	3D Accuracy mm	Max Distance m	FOV	Max Deep m
MARS 1.3H UW	UW-100	1.3	1280×1024	240	4.0	±0.3	6	95°×74° (Air) 64°×50° (Water)	100
MARS 4H UW	UW-100	4	2048×2048	180	5.2	±0.15	17	52°×52° (Air)	100
	UW-50	4	2048×2048	180	5.2	±0.15	17	37.55°×37.55° (Water)	50

NOKOV motion capture systems employed by most of China's top universities

NOKOV's Featured Clients



Tsinghua University



Zhejiang University



Shanghai Jiao Tong University



Fudan University



Southern University of Science and Technology



Huawei



University of Oxford



Osaka University



Harbin Institute of Technology



Nanjing University of Aeronautics and Astronautics



Shenzhen innoX

Tencent 腾讯



Beihang University



Xi'an Jiaotong University



Beijing Institute of Technology



Xidian University



Shenzhen University



aMap



Huazhong University of Science and Technology



South China University of Technology



Northwestern Polytechnical University



Nanjing University



Tianjin University



Alibaba



Tongji University



University of Science and Technology of China



Sun Yat-sen University



The Hong Kong Polytechnic University



Xiamen University



DJI



Nankai University



Southeast University



National Institute of Technology, Tiruchirapalli, India



Wuhan University



Shandong University



Daikin



Chinese Academy of Sciences



China Academy of Launch Vehicle Technology



China Electric Power Research Institute



Sichuan University



The Chinese University of Hong Kong



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