FANG YANGTAO

linkedin.com/in/yangtaofang

yangtao.fang@ip-paris.fr

 $+33 \,\, 769789610$

EDUCATION	2
09/2024 - Present	Institut Polytechnique de Paris, Palaiseau, France DataAI M1
09/2020 - 06/2024	 Yanshan University (YSU), Qinhuangdao, China B.Eng. in Robot Engineering Graduation Project: Design of a Biomimetic Micro Robot for Intestinal Diagnosis and Treatment
EXPERIENCE	
07/2023	 Shandong Lingong Construction Machinery Co., Ltd. (Volvo Group), Linyi, China Summer Intern, Advised by Liangyu Qiao Secured 1st prize in the automation design competition for interns Designed an automated transport system based on Siemens S7-1200 PLC using SolidWorks and TIA Portal to increase the transport efficiency of gearbox cases Delivered a speech on internship experience as a representative at the concluding meeting (over 150 attendees, including professors, experts, and company executives) Exchanged intelligent automation insights with supervisors from 4 departments Learned about Poka-Yoke, EFQM Model, Lean Manufacturing, AS/RS, MES, and PDM
05/2022 - 06/2023	 Department of Vehicle Engineering, YSU Undergraduate Researcher, Advised by Dr. Xueliang Li (Deputy Dean of Department) Intelligent Electric Wheelchair Based on a Parallel Manipulator Published 1 paper; received a full research grant and honorary credential from the National College Students' Innovation and Entrepreneurship Training Program Designed 5 parallel mechanisms using SolidWorks and performed finite element stress analysis to assess their structural performance Built a 4-DoF 4-UPU parallel manipulator prototype for seat position adjustment and conducted a static load test to ensure safety
05/2021 - 05/2022	 Mechatronics Lab, YSU Undergraduate Researcher, Advised by Yanhua Tang (Lab Director) Autonomous Rescue Unmanned Ground Vehicle for High-Risk Environments Optimized the robot's exterior design to enhance its camouflage capabilities in outdoor environments Reviewed over 120 academic papers on machine perception and deep learning
PROJECTS	$\sum_{i=1}^{n}$
10/2023 - 12/2023	 4-DOF Robotic Sorting System Using Vision Camera and TRIO Motion Controller Project Leader Developed the electrical system for an automated conveyor belt system Programmed control code for the automated conveyor belt system using Motion Perfect Implemented precise grasping and classification of parts with varying shapes using a 4-DOF robotic arm
09/2023 - 11/2023	 Multi-Software Analysis of Kinematics and Dynamics for 3-RRR Parallel Robot Simulation Developer Collaborated with the project team to complete mathematical modeling of robot kinematics and dynamics using MATLAB Developed forward and inverse dynamics simulation models in Simulink (Simscape) Validated the robot's mathematical model with end-effector trajectory, joint displacement, velocity, acceleration, and torque obtained from Simulink and SolidWorks Motion Analysis

02/2023 - 06/2023	Size-Based Automated Parcel Sorting and Warehousing System
	Personal Project
	• Self-funded 150 euros to purchase cost-effective hardware
	• Built an STM32-based embedded system to control devices, reducing development costs by 600 euros compared to PLC
	• Developed a parcel dimensioning and classification program using uVision that achieved
	99.2% sorting accuracy with ultrasonic sensors (sensors costing only 8 euros)
11/2022 - 12/2022	A Novel Algorithm of Moving Object Tracking Based on Color
	Project Leader
	• Utilized MATLAB for image filtering, blob analysis, and GUI design
	 Adopted the GoogLeNet CNN to extract object features and classify objects Wrote terrest accordinate calculation and DID control alregithms to realize automated real
	• Wrote target coordinate calculation and FID control algorithms to realize automated real-
	• Led weekly project meetings and completed the project 2 weeks ahead of schedule
10/2022 - 11/2022	Design of a Pulse Rate Measurement Device Using DSP Techniques
10/2022 11/2022	Project Leader
	• Designed 2 Butterworth low-pass filters (impulse invariance and bilinear transformation
	methods) in MATLAB to filter pulse rate signals and compared their filtering characteristics
	• Performed spectral analysis of the filtered signal using 128-, 256-, 512-, and 1024-point
	FFTs to extract the pulse rate frequency
	• Analyzed the impact of the number of FFT points on the pulse rate measurement accuracy
PUBLICATIONS	
2023	Fang, Y., Song, L., Huang, J., & Cong, K. (2023). Research on Electric Control System for
	Multi-Dimensional Adjustment of Parallel Four-Bar Mechanism. Journal of Electronic
	Components and Information Technology, 7(8), 51-54. https://doi.org/10.19772/j.cnki.2096-
	4455.2023.8.014 [Paper]
AWARDS	
2024	Excellent Graduation Project Award, YSU School of Mechanical Engineering
2023	Silver Award, Hebei Province "Internet+" Innovation Competition, self-driving controller team
2020 - 2023	8 YSU Academic Competition Awards in robotics, product innovation, and machine design
2020 - 2023	6 YSU Undergraduate Scholarships for academic excellence (top 30%)
2020	Merit Student (top 5%), YSU School of Mechanical Engineering
ACTIVITIES	
06/2023	19th World Walking Assembly, Qinhuangdao, China
	Volunteer
	• Guided walking groups (about 10k people) through a 5-km hike
	• Received a volunteer certificate for outstanding contributions to the assembly
10/2020 - 06/2021	Science and Technology Innovation Association, YSU
	Secretary
	• Planned and organized an online machine design competition during the COVID-19
	pandemic to stimulate students' creativity and innovation while studying at home
	• Attracted over 100 students to this competition, more than 97% of whom reported improved CAD skills and creativity
0	
SKILLS	J. Languages: Mandarin (native) English (R2 fluent)
	Robotics: ABB RobotStudio. Motion Perfect. MATLAB Impact VPM Simulink
	IT: C, Python, Linux, WordPress, Oracle Cloud. SQL
	Embedded: CubeMX, Keil uVision
	CAD/CAM: SolidWorks, AutoCAD, TIA Portal