Lu Yuxuan

Objective: Mechanical Design/Process/Manufacturing

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📍 Suzhou, Jiangsu Province

🎓 EDUCATION

2023.09 – 2027.07 Tongji University – Bachelor of Mechanical Design, Manufacturing, and Automation

- Core Courses: Mechanical Drawing, Mechanical Design, Electrical and Electronic Technology, Automatic Control Principles, Hydraulic and Pneumatic Transmission, Mechatronics, Mechanical Manufacturing Equipment Design, etc.
- Scholarship: University-level Scholarship (Top 10%), 2024

💼 EXPERIENCE

2024.11–2025.05 Tongji University PACE Center – Robotics R&D (Mechanical Team Lead)

- Structural Design: Led the design of a robot chassis module, achieved 20% weight reduction via SolidWorks topology optimization while maintaining ≥50kg load capacity.
- Manufacturing: Processed aluminum alloy frames using CNC engraving machines (tolerance ±0.1mm), fabricated lightweight joint components with FDM 3D printing.

2024.07–2024.08 Zhizhen Building Smart Car Control Project – Mechatronics Intern

- Hardware Development: Designed the smart car chassis PCB circuit (Altium Designer), optimized sensor layout to reduce signal interference by 30%.
- Control Programming: Implemented PID control algorithms in C++, achieved track-following error <2cm, secured 3rd place in the campus competition.

2024.03–2024.06 Metalworking Internship – Comprehensive Training in Turning, Milling, and Fitting

- Precision Machining: Independently completed step shaft turning (IT7 tolerance) and cross-slot milling (surface roughness Ra1.6μm).
- Process Optimization: Improved fixture clamping sequence, reduced single-part processing time by 15%, earned instructor recommendation.

👤 PROJECT

2024.03–2024.12 National Innovation Project "Vision-Based Eggplant Harvesting Machine" – Structural Design Lead

- Innovative Design: Developed a crank-slider harvesting mechanism, validated via simulation for a fatigue life ≥100,000 cycles (ANSYS Workbench).
- Field Testing: Participated in field trials, adjusted mechanism parameters to increase harvest success rate from 70% to 85%.

2024.09–2024.11 Hydraulic System Course Project – Team Leader

- System Design: Designed a hydraulic lifting platform circuit, selected servo valves for position control (error ±0.5mm).
- Troubleshooting: Diagnosed oil leakage issues, restored system pressure to 10MPa after replacing seals.

🎖 SKILLS

Design/Simulation: SolidWorks (CSWA), AutoCAD (2D engineering drawings), ANSYS static analysis

Machining/Inspection: CNC lathe (Fanuc system), 3D printing, CMM (Coordinate Measuring Machine), roughness tester

Programming/Automation: C++ (control algorithms), Python (data processing), PLC ladder logic basics

Language: CET-4 (599), CET-6 (560)