CHENJIE CAO

(Jay)

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Profile

Mechatronics Engineering student studying in the Netherlands with experience in embedded systems, mechanical design, and renewable energy projects. Interested in automation, robotics, offshore engineering, and technical project support roles.

Education

HZ University of Applied Sciences — Middelburg, Netherlands
BEng / Exchange Programme in Engineering
Feb 2026 – Present
Relevant coursework: Offshore Renewable Energy, Hydrogen Systems, Mechanical Design, Engineering Projects

Shanghai Maritime University — Shanghai, China
BEng Mechanical and Electronic Engineering(Sino-Dutch Programme)
Sep 2023 – Jun 2027 expected

GPA: 3.16 / 4.00
Relevant coursework: Automatic Control; Industrial Controller Applications; Mechanical Design; Electrical and Electronic Technology; C Programming; Detection Technologies.

Technical Skills

Embedded Systems: STM32, STM32CubeMX, Keil, HAL Library, UART, I2C, GPIO
Programming: C, basic C++, HTML/CSS basics, Python basics
Mechanical Design: SolidWorks, 3D modelling, mechanical component design, 3D printing
Engineering Tools: MATLAB, Excel, technical documentation, FMEA, basic data visualization
Languages: Mandarin Chinese native, English professional working proficiency, Dutch beginner

Engineering Projects

Offshore Wind Tender Proposal – Technical & Commercial Bid Analysis

HZ University of Applied Sciences | 2026

- Developed a course-based tender proposal for a 540 MW offshore wind foundation installation project, covering installation methodology, marine logistics, scour protection, risk analysis, and cashflow planning.
- Built a benchmark-based bid model and milestone payment schedule by linking vessel days, installation quantities, weather allowance, and compliance requirements.

Tools: Excel, Technical Documentation, Risk Analysis, Cost Estimation

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Medical Service Robot – Embedded Scanning and Display System

Shanghai Maritime University | 2024

- Developed an STM32-based system for QR/barcode scanning, LCD display, GPIO control, and voice prompts in a medical service robot scenario.
- Integrated UART and I2C communication between the barcode scanner, voice module, LCD1602, and STM32F103C8T6, and debugged data reception, display, and timing issues.

Tools: STM32CubeMX, Keil, C, STM32 HAL, UART, I2C

Hydrogen-Powered Boat Design Project

HZ University of Applied Sciences | 2026

- Supported the mechanical design and integration of 3D-printed components for a hydrogen-powered boat prototype.
- Evaluated manufacturability, assembly, testing limitations, and basic system risks related to hydrogen, electrical, and mechanical integration.
- Processed electrolyser experimental data using Python, pandas, and matplotlib; calculated power, electrical energy, and efficiency from CSV data, and generated U-I, power-current, and efficiency-current curves for engineering interpretation.

Tools: SolidWorks, Python, 3D Printing, FMEA, Technical Documentation

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Awards & Achievements

First Prize, University-level China Robot Competition Selection — SMU, 2024

Second-class Academic Scholarship — Shanghai Maritime University, 2023–2024

Excellence Award, Physics Competition — Shanghai Maritime University