YunHao Dong

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EDUCATION

New York University, Tandon School of Engineering, Brooklyn, NY   Expected Graduation: May 2026
Bachelor of Science, Computer Engineering | GPA: 3.939 | Dean's List
Relevant Courses: Data Structures & Algorithms, Object Oriented Programming, Digital Logic, Circuits, Electronics 1, Embedded Systems, Databases, Computer Architecture

SKILLS

- Languages: Python, C++, C, C#, HTML, CSS, Verilog, Swift, SQL,
- Systems Engineering, Embedded Systems, Linux, IoT, Hardware Design & Development, Circuit Design, OnShape, Altium

EXPERIENCE

NYU Tandon Computer Science Department, *Course Assistant,* Brooklyn, NY   Sep 2024 - Present
- Graded assignments to review Python code and offered constructive feedback to over 100 students
- Conducted office hours to assist 100+ students to clarify concepts and course material
- Facilitated lab sessions on Python to guide 30 students through hands-on exercises to ensure comprehension of topic

NYU Robotics Design Team, *Systems Engineer*, Brooklyn, NY   Jan 2024 - Present
- Developed C++ embedded code for robot control in manual & autonomous operations in NASA's Lunabotics Competition
- Optimized I2C communication in Linux between NVIDIA Jetson Orin Nano with Teensy, reducing latency by 30%
- Engaged with 4 subsystems leads in weekly meetings to coordinate design implementation, constraints and integration, increasing operational efficiency by 20% in verifying functionality
- Achieved first place in university-wide research exhibition for Vertically Integrated Projects, competing against 30+ projects

NYU Robotics Design Team, *Electrical Engineer*, Brooklyn, NY   Sep 2022 - Jan 2024
- Tested and programmed Brushless DC motors, hall effect, rotary encoder, and load cell sensors for data acquisition
- Interfaced Raspberry Pi with Teensy through I2C for data and command transfer, enabling wireless control for the rover

NYU Undergraduate Summer Research Program, *Student Researcher,* Brooklyn, NY   Jun 2023 - Aug 2023
- Integrated C# scripts for game objects, UDP protocol, and Python computer vision to track hand movements across webcam with 90% accuracy in Unity
- Designed a wristband PCB in Altium to gather tendon data from hand gestures, reducing prototype size by 40%
- Collaborated with 4 student researchers to create a frame for stabilizing data collection using Ultraleap Camera

Doris Dev, *Product Development Intern,* Brooklyn, NY   Jun 2022 - Aug 2022
- Collaborated with design engineers to prototype CAD models of consumer products using OnShape
- Evaluated 20+ products on the market to outline industry standards and brainstormed competitive design improvements

PROJECTS

MistLink   Oct 2024 - Dec 2024
- Prototyped and implemented a smart humidifier with ESP32, integrated with the Matter protocol for IoT communication
- Troubleshooted firmware for interoperability between humidifier, Google Nest Hub, Google Assistant, and Google Home app
- Achieved robust connection and rapid response time, ensuring smooth execution of commands for users

PetPlatter   Jul 2024 - Aug 2024
- Built a WebSocket server on AWS EC2 instance to facilitate real time communication to control a pet feeding device, establishing low-latency interaction between app and hardware
- Implemented a user-friendly iOS app in swift to control device for feeding food and monitor water availability
- Configured ESP32 to handle incoming WebSocket messages and execute commands on servos and liquid pump

SecureMotion   Jun 2024 - Jul 2024
- Developed iOS app with swift for real-time home security monitoring and control, utilizing MQTT for bidirectional communication and ESP32 microcontroller for feedback
- Enhanced IoT communication protocol by integrating an authentication mechanism to ensure data privacy
- Streamlined message handling for effective data transmission, resulting in improved system performance by 20%