HUA BIN WU

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Education

SUNY STONY BROOK UNIVERSITY — Stony Brook, NY

Bachelor of Engineering: Computer Engineering (GPA: 3.85/4.00) — Expected Graduation: May 2026

Societies & Organizations: IEEE at SBU, Stony Brook Robotics Team (SBRT)

Honors & Awards: Dean's List (2023)

Relevant Coursework:

- Embedded Microcontroller Systems Design
- Digital Designs with VHDL/PLDs
- Electronics
- Data Structures & Algorithms
- Deterministic Signals & Systems
- Electrical Circuit Analysis
- Applied Multivariable Calculus
- Linear Algebra

Experience & Activities

AMS STONY BROOK UNIVERSITY — Stony Brook, NY

Undergraduate Teaching Assistant (AMS 161 - Applied Calculus II) — May 2023 - Jul. 2023

- Facilitated the application of analytical thinking to course learning outcomes for undergraduate students through weekly held 90 minutes office hours by explaining the step-by-step process of solving calculus fundamentals concept-related questions
- Returned individually graded and commented exams for a class of size 80, to the professor in a time-efficient, one-week manner utilizing Google Spreadsheets

INFINITY EDUCATIONAL PROGRAMS INC. — Brooklyn, NY

Finish Carpenter — Jul. 2021 - Aug. 2021

- Supported multiple team members in re-touching surfaces of 10+ different classrooms and 3 individual floors through leveraging construction instruments, stripping, filling, and priming techniques before painting to create a visually appealing and welcoming atmosphere for returning students and teachers
- Adhered to school safety administrators to collectively re-organize the inside structures of a preschool to maintain a hazard-free and efficient learning space for younger children

Projects & Research

Student Researcher in Soft Electronics for Sensing and Actuation SBU VIP Team — Jan. 2024 - Present

- Currently working in a sub-team with biomedical and mechanical engineering undergraduate and Ph.D. students on a long-term weekly meetup research project to re-create and improve an eye-movement sensor utilizing soft magnetic skin, magnetic sensing, and incorporating machine learning for electrooculography.

Computer Vision-Enabled Smart Recycling System (Hack@CEWIT 2024) — Mar. 2024 - Present

- Collaborated on a project to create a computer vision-enabled camera that detects different common recyclable garbage types using a pre-trained API YOLOv8 model and sorts them into distinct compartments by the returned class. The subscale system uses different LEDs to indicate the separate categories of recyclables (e.g., BLUE for metal, GREEN for plastic, RED for glass, YELLOW for paper, and WHITE for cardboard) configured with an Arduino, Python, and a Raspberry Pi 3 camera.

Microcontroller-Based Smart LED Intensity Adjuster with User Interface — Sept. 2023 - Dec. 2023

- Utilized a 4x4 membrane keypad with an LCD module to create a real-time user interface that allows the user to accurately adjust the brightness intensity across LEDs with numerical keypress entries ranging from 0-100, on an AVR128DB48 microcontroller and programmed with Assembly; used Microchip Studio to emulate/debug through the code and designed circuit schematics with OrCAD.

Multi-Function Variable Digital Clock — Sept. 2022 - Dec. 2022

- Designed a digital clock with ATMEGA4809, programmed with C++, on a PCB with settings that allow for 12/24-hour basis display in real-time as well as the ability to serve as a timer/counter using four 7-segment displays, and simultaneously act as a battery charger for other devices; used LTspice to create and simulate the behavior of sub-circuit models before final designs.

Skills

Technical: C/C++, Python, AVR Assembly (Microchip Studio), MATLAB, VHDL (Active-HDL/Synplify/ispLEVER), Fusion 360, LTspice, OrCAD Capture CIS, Zoom, Microsoft Office Suite, Visual Studio

Laboratory: Oscilloscope, DMM, Function Generator, PB-505 Analog & Digital Design WorkStation, Electronics, Soldering, Arduino, AVR CuriosityNano, PLDs