Wyatt Hansen

✉ WyattHansen99@gmail.com ⌨ github.com/WyattH99 in linkedin.com/in/WyattH99 🌐 WyattH99.github.io

SKILLS

Programming Languages:	C / C++
Frameworks & Protocols:	SPI, I2C, USART, GPIO, STM32 HAL, RTOS, FreeRTOS, ROS
Hardware:	STM32F4 Series, ARM Cortex M, Nucleo, 16x02 LCD, Tiny RTC, Arduino
Development Tools:	STM32CubeIDE, Git / GitHub, Agile, Linux, Multisim

PROJECTS

STM32 Robotic Arm Project V2 – FreeRTOS + Features
- Revamped V1 with FreeRTOS, integrating Threads, Queues, and a State System.
- Implemented new features including Emergency Stop Interrupt and 16x02 LCD for user state feedback.

STM32 Robotic Arm Project V1
- 3D Printed Robotic Arm with a **STM32** micro-controller, integrating a smaller robot as the primary controller using a Super Loop Control methodology.
- Using STM32 **HAL**, I mapped the readings of the Potentiometers using the **ADC** Peripheral to control the servos through a Servo Driver with **I2C** communication.

Embedded Driver Development
- Utilizing an STM32 Nucleo-F446RE I implemented the drivers for the **GPIO**, **SPI**, **I2C**, and **USART**.
- Successfully completed a Clock and Calendar Display on an 16x02 LCD using an Tiny RTC.

Task Scheduler with Round Robin Prioritization
- Utilizing **C** to create tasks to toggle LEDs using **Register Manipulation** of the GPIO.
- Implemented the Process Stack Pointer for the tasks and Main Stack Pointer for the scheduler.
- **Debugging** was done by enabling the Usage, Memory Management, and Bus Faults.

EDUCATION

Texas A&M University, College Station, Texas   December 2021
  Bachelor of Science in Computer Engineering
  Minor in Cyber Security

Lone Star University, Kingwood, Texas   May 2017
  Associate of Arts

Fast Bit Embedded Courses   November 2023 – March 2024
- Completion of Embedded Driver Development, Mastering RTOS, and Embedded Systems Programming

WORK EXPERIENCES

dkCrew, LLC, Splendora, Texas   March 2020 – Present
IT Administrator and Operations Manager
- I play a crucial role in maintaining the smooth operation of the organization's IT environment, supporting users, ensuring data security, and contributing to the strategic planning of IT initiatives.
- Responsible for overseeing the day-to-day activities and ensuring efficient and effective operations.

Genesis Dimensions, Houston, Texas   Summers of 2017, 2020, and 2021
Engineering Intern
- Successfully installed and implemented Taiga, an open-source Agile project management tool, on in-house servers, enhancing project coordination and management.
- Assisted in the manufacturing and integration of industrial control panels for a Kuka Robot and a Material Flow Control System

Arrington Automation, Houston, Texas   August 2018 – August 2019
Engineering Intern
- Collaborated with a team of engineers to contribute to the design, testing, manufacturing, and integration processes of industrial control panels for control systems.