## Mikhail Rossoshanskiy

· f - lio ikhailrossoshanskiv@gmail.com.l.l.(016) **b**++

miknaiirossosnanskiy@gmaii.com    (916) 335 0409    <u>Linkedin  </u>   Portfolio - <u>https://www.mrossosnanskiy.com/</u>			
Education			
UC San Diego, Jacobs School of Engineering – B.S. in Electrical Engineering September 2020 – Expected June 2023			
3.74 GPA – (Circuits and Systems Depth)			
Sierra College – A.S. in Engineering, Mathematics, Natural Science with Honors May 2017 – May 2020			
Skills			
٠	Hardware – Oscilloscopes, vector network analyzer, waveform generators, spectrum analyzers, power supplies, parts sourcing,		
	DAC, ADC, MOSFET drivers, electronics troubleshooting, soldering, programmable logic controllers.		
•	Software – Altium, OrCAD, Python, C, C++, MATLAB, Intel Quartus, Xilinx Vivado, E/	AGLE, AutoCAD, Fusion 360, HFSS, Keysight ADS.	
Experience			
AEM – Se	emiconductor Testing Solutions Intern	March 2023 – Present	
R&D Engineer			
۲ <u>ــــ</u>	Performed schematic capture and layout design for a pick-and-place handler enabling pneumatic control over 8 independent axes, resulting in a compact sensor interface solution to further improve automation efficiency.		
•	Utilized Twin CAT 3 automation environment to write and synthesize PLC scripts, enabling seamless execution of customized		
	motion control profiles.		
•	Engineered a quadrature decoder within an Artix-7 FPGA, incorporating position and velocity incrementation functionalities to		
	demonstrate a low-cost, multi-axes, feedback control loop solution.		
•	Successfully prototyped debounce filtering solutions through software (register sync) and hardware (Low-pass filter/Schmitt		
	trigger), optimizing signal stability and minimizing noise interference.		
ModalAI	Intern	Jan 2022 – Feb 2023	
Hardware Engineer			
•	Led a project to develop a dual-layer electromechanical test fixture enabling simultaneous testing of both sides of the PCBA for		
	precise monitoring/validation of the power output with I2C.		
•	Conducted thermal cycling and reliability analysis on flight controller and computer vision systems, subjecting them to custom		
	temperature profiles over a 70°C to -20°C range.		
•	Generated accurate <b>3D STEP</b> board files for various hardware modules to validate	assembly tolerances.	
Innovive Intern Oct 2021 – Dec 2021			
We Hardware Engineer			
×.	Developed a C++ script to parse SPI data ensuring the validation of pressure sensor	rs for specifications below 80 mi H2O.	

- Generated a 3D matrix heatmap visualization of air pressure data, enabling successful analysis of airflow through the system and identification of low-pressure points across 3 out of 5 systems.
- Compiled comprehensive work instructions for technicians, aiding in the operation and handling of various validation boards.

## **Liquid Instruments Intern**

Applications Engineer

- Utilized an FRA and a RF directional coupler to conduct comprehensive S-parameter analysis of two-port networks.
- Created an automated workflow using Python APIs to validate and benchmark digital circuit design, improving efficiency and accuracy of the testing process.
- Developed a software defined digital phase-locked loop (PLL) via an FPGA-based platform and optimized its parameters for 1.053 MHz FM radio demodulation.
- Drafted technical documentation, application notes, white papers and presented the work in company technical discussion sessions.

## **Projects**

**IR LED Driver Board** 

April 2023

June 2021 – September 2021

September 2021 – August 2021

- 4-layer board design that can accurately detect ambient light levels and control a series of LEDs with precise PWM control.
- Tackled high density footprint constraints and heat dissipation with careful thermal via and pad placement throughout the board.

## GPS system for logging ozone and CO2 pollution hotspots

- Wrote a C script on a ESP32 MCU to sync PPM data with latitude/longitude coordinates and save this data to a local SD card.
- Was able to produce an urban pollution heatmap with respect to PPM data via a Google Maps overlay.
- Designed and 3D printed a streamline enclosure with universal mounting options for bicycle frames.