

Sigmond Kukla

Entrepreneur, Researcher, and Problem-Solver | Electrical and Computer Engineering Student at Clarkson University

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Skills

Programming Proficiency

C, C++, Python, VHDL, Verilog, STM32, EFR32, CMSIS, Zephyr, MATLAB, React Native, Vue.js, C#, OpenCV, TensorFlow Lite, Docker, X-Midas

Software Proficiency

Altium, KiCad, ARM Keil, AMD Vivado, LTSpice, Autodesk Fusion, Jira, SOLIDWORKS, GNU Radio, Visual Studio, Vim, Unity, Blender, Proxmox

Experience

CACI International Inc

Digital Signal Processing (DSP) Intern

May 2026 - Aug 2026

Sterling, VA

- Modernized Processing Service capability for push-to-talk radio signals, contributing to baseline while assisting team and adhering to Agile protocol
- Supported customer integration with CACI BEAM 3.0 product including verifying functionality and troubleshooting issues during field testing
- Presented to Electronic Warfare line of business executive leadership the benefits and customer impact of my work on Processing Service

Clarkson University Rocketry

Team Manager and R&D Lead (Previously Air Brakes Lead and ModSim Lead)

Sept 2024 - Present

Potsdam, NY

- Implemented team project management to inform design decisions for the upcoming 2027 International Rocket Engineering Competition (IREC)
- Built a successful state estimation and altitude control system, including developing a custom flight computer PCB and securing fabrication and assembly sponsorships, achieving our ± 500 ft apogee precision goal by reaching 10,352 ft at IREC 2025
- Validated flight computer and control subsystems with custom ground station supporting hardware-in-the-loop simulation testing

NSF Sensor Development and Implementation Pipeline REU

Undergraduate Mentor

May 2025 - Aug 2025

Clarkson University

- Assist with knowledge transfer to other SDIP REU students and provide resources for research success, while extending the capabilities of our portable potentiostat and maternal biosensor system in collaboration with Clarkson Chemical Engineering's BIOsem lab
- Attended the Semiconductor Research Corporation's TECHCON 2025 conference, presenting my work in the undergraduate REU category

Clarkson University Department of Electrical and Computer Engineering

Undergraduate Research Assistant - Center for Advanced PCB Design and Manufacturing

Jun 2024 - Present

Potsdam, NY

- Miniaturized electrochemical sensor, creating a portable potentiostat with BLE transmission of experiment data to React Native mobile app, winning 5th place in Sierra Circuits PCB design competition for creation of an AI-enabled wearable bandage maternal biosensor
- Presented AssemBLOCKS, my XR assembly teaching tool based on a simulated 6502 microprocessor and connected computer design elements, at an Associated Colleges of the St. Lawrence Valley VR in Teaching and Research Faculty Seminar

Teaching Assistant - EE260 Embedded Systems

- Modernized curriculum to target Silicon Labs EFR32xG24 Wireless and ML MCU, writing new lecture presentations and assignments
- Assist students with theoretical and hands-on aspects of the course and delivered multiple approachable and engaging lectures

Clarkson Ignite

Maker Mentor

Aug 2024 - Present

Potsdam, NY

- Managed electronics and soldering station inventory and responsible for retrofitting pickup lockers for 3D print delivery, building custom hardware and open-source item management software that won 1st place out of nearly 100 teams at Clarkson's inaugural 2024 Ignite Project Expo

PicoPlanet Developing

Small Business Owner

 <https://picoplanetdev.tk>

Nov 2017 - Present

Pittsburgh, PA

- Self-taught Virtual Reality game developer in the Oculus Start program with multiple paid games published on the Meta Quest platform

Simcoach Games

Summer Apprentice

 <https://www.simcoachapprenticeship.com>

Jun 2023 - Jul 2023

Pittsburgh, PA

- Worked in small teams on two self-directed transformational games aimed at children with autism and other neurodivergent disorders while helping peers to build game development skills including Unity, C#, Maya, and Blender

Absolute Value Tutoring

Curriculum Designer and Teacher

May 2023 - Aug 2024

Mt. Lebanon, PA

- Created and taught introductory Python and Arduino programming curriculum for advanced elementary and middle school students

Education

Clarkson University

Electrical and Computer Engineering
4.0 GPA

May 2028

Bachelor of Science

Mount Lebanon High School

4.0 GPA / 5.2 weighted

June 2024

10 AP classes including one self-studied, and 3 Independent Study project courses in senior year after finishing all available curriculum

Ignite Presidential Fellow and Senior in ECE coursework