

Sigmond Kukla

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

[Pittsburgh, PA](#) [\(412\) 287-0463](#) [@ sigkukla@gmail.com](mailto:sigkukla@gmail.com) <https://sigmondkukla.dev> [in linkedin.com/in/sigmondkukla](https://www.linkedin.com/in/sigmondkukla) github.com/sigmondkukla

Skills

Programming Proficiency

C, C++, Python, VHDL, Verilog, STM32, CMSIS, Assembly, MATLAB, Excel, React Native, Vue.js, C#, OpenCV, TensorFlow Lite, Docker

Software Proficiency

Altium, KiCad, ARM Keil, AMD Vivado, SiLabs Simplicity, Autodesk Fusion, SOLIDWORKS, Visual Studio, Unity, Blender, Proxmox

Experience

NSF Sensor Development and Implementation Pipeline REU
Undergraduate Mentor

May - August 2025
Clarkson University

- Validate and extend, in the Clarkson chemical engineering BIOsem lab, the capabilities of the portable potentiostat sensor system
- Develop an intelligent Bluetooth-based indoor positioning system incorporating additional data streams to improve accuracy
- Assist with knowledge transfer to other SDIP REU students and provide resources for research success

Clarkson University Rocketry
Air Brakes Technical Lead

September 2024 - Present
Potsdam, NY

- Built a successful rocket state estimation and altitude targeting control system, resulting in achievement of our 10,000±500 ft goal with an apogee of 10,352 ft at the 2025 International Rocket Engineering Competition
- Involved in Air Brakes PCB design and troubleshooting while also designing our payload data logging PCB hardware and software
- Developed processes to simplify simulation of our rocket throughout development to inform design decisions and validate subsystems

Clarkson University
Undergraduate Research Assistant - Center for Advanced PCB Design and Manufacturing

June 2024 - Present
Potsdam, NY

- Responsible for development of a portable electrochemical sensor using a Texas Instruments LMP91000 potentiostat with an SiLabs EFR32MG12 microcontroller and BLE transmission of experiment data to React Native mobile app
- Won 5th place in Sierra Circuits PCB design competition for creation of an AI-enabled wearable bandage maternal biosensor
- Developed GaitSIT, a VR platform for screening walking gait and assessing balance and motor issues
- Presented AssemBLOCKS, my XR assembly teaching tool with a simulated 6502 microprocessor, at an Associated Colleges of the St. Lawrence Valley *VR in Teaching and Research* Faculty Seminar.

Clarkson University
Teaching Assistant - EE260 Embedded Systems

January 2025 - Present
Potsdam, NY

- 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

August 2024 - Present
Potsdam, NY

- Helping students safely transform their ideas into tangible products by leading workshops on equipment in the Ignite Dorf Makerspace
- Responsible for retrofitting pickup lockers for 3D print delivery, building custom hardware and open-source item management software and winning 1st place out of nearly 100 teams at Clarkson's inaugural 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/>

June 2023 - July 2023
Pittsburgh, PA

- Worked in small teams on two self-directed transformational games aimed at children with autism/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 - August 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

Ignite Presidential Fellow and rising Junior in ECE coursework

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