

Sigmond Kukla

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

[Pittsburgh, PA](#) [\(412\) 287-0463](#) sigkukla@gmail.com <https://sigmondkukla.dev> [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 Co-Lead

September 2024 - Present

Potsdam, NY

- Interfacing with GPS, barometer, and IMU sensors on our custom Air Brakes PCB to enable rocket state estimation and altitude targeting
- Assisted with Air Brakes PCB design and designed our payload data logging system 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 AssembBLOCKS, 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

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

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