# Ryan Ramminger

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## Education

**University of Birmingham – United Kingdom** **May 2024**
*Master of Science – Robotics*

**University of Wisconsin – Green Bay** **May 2022**
*Bachelor of Science – Mechanical Engineering*, GPA: 3.54/4.0
*Minor in Mathematics, Business*

## Academic Projects

**Computer Vision Educational Videos: @ryry_thecvguy** **Sep 2024 - Present**

- Produce short-form videos on TikTok and Instagram to explain computer vision topics, combining theory, coding examples, and practical insights.
- Utilize Python, OpenCV, and machine learning frameworks to showcase real-world applications of computer vision.

**Blind Navigation Assistance with Feedback Glove:** *Computer Vision, Python, Raspberry Pi, Vibration Motors* **Sep 2023**

- Engineered a real-time object detection deep learning vision system to trigger vibration motors on the user's palm.
- Encoded robust error handling, motor control mechanisms, and a custom 3D-printed camera housing for reliable and safe system operation. Paper [1].

## Professional Experience

**Kaleidoscope Innovation | Contracted to Amazon Robotics HQ**
**Sensing System Engineer (R&D) – Boston, MA** **July 2025 – Present**

- Diagnose and resolve hardware/software issues from field reports, characterize sensors, design and validate lab fixtures, and test various camera/sensor systems to identify trends and optimize optical performance.
- Investigate new technologies, automate test plans, validate software features, and support cost reduction initiatives while developing Python scripts and GUIs to streamline workflows in an R&D environment.

**Robotics Engineer – Markham, IL** **Mar 2025 – July 2025**

- Supported daily operations of Alpha/Beta ABB robotic work cells, performing deep-dive hardware, software, and controls troubleshooting along with preventative maintenance.
- Conducted system testing, implemented hardware changes, and coordinated with remote Amazon Robotics engineering teams to improve performance and reliability.

**Mechanical Engineer for Bio-Chemical Filtration Systems | Tanda BioTech (Startup)** **Sep 2024 – Apr 2025**

- Designed and tested filter flow path prototypes; created sixteen custom products from scratch to enhance performance while reducing manufacturing and customer costs.
- Maintain resin and filament 3D printers, leveraged additive manufacturing for rapid prototyping

**Clinical Robot Associate | Diligent Robotics** **Sep 2024 – Feb 2025**

- Managed and assisted mobile service robots in a hospital environment, ensuring safe operations, smooth workflow integration, and optimal performance.
- Diagnosed real-time technical issues, providing engineers with critical feedback and collaborating with multidisciplinary teams to improve system reliability.

**Freelance Engineer / Hardtech Development Contractor | mHUB** **Aug 2024 – Mar 2025**

- Developed and implement tailored solutions that improve functionality and efficiency, ensuring successful project outcomes and client satisfaction.
- Provided engineering expertise to client companies, identified and addressed key challenges in product design and process optimization during collaborative brainstorming sessions.

## Skills

- **Technical Tools:** Machine Vision, Image Processing, OpenCV, Linux, Mechatronics, Control Systems, Arduino, Raspberry Pi, Sensors, TensorFlow, PyTorch, CapCut
- **Applications:** SolidWorks, AutoCAD, Tinkercad, Onshape, Simulink, Google Colab, Microsoft Office 365, ROS, GitLab
- **Programming Languages:** Python, PowerShell, SQL, MATLAB, C/C++

## Certifications

- Python for Everybody – University of Michigan (Coursera) **July 2025**

## Honors and Affiliations

- UBRobotics Club **Jan 2023 – May 2023**
- University of Wisconsin – Green Bay Degree Honors: Cum Laude **May 2022**
- University of Wisconsin – Green Bay Swim Team Captain's Award for Leadership **May 2021**