Ryan Ramminger

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Professional Experience

Kaleidoscope Innovation | Contracted to Amazon Robotics HQ – Boston MA, USA

R&D Sensing System Engineer (Jul 2025-Present) | Robotics Engineer (Feb 2025 – Jul 2025) **Feb 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.
- Optimized performance and feature integration of 35 ABB robotic manipulator work cells, achieving 95% FPY and reducing downtime by 20% through root-cause analysis, troubleshooting, and software/hardware updates.
- Supported Alpha/Beta operations by executing system testing, collaborated with remote Amazon Robotics teams, and bridged training gaps across cross-functional stakeholders to enhance efficiency and operational readiness.

Mechanical Engineer | Tanda BioTech (Startup) – Chicago IL, USA **Sep 2024 – Apr 2025**

- Designed and tested filter flow path prototypes for bio-chemical filtration systems; 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 – Chicago IL, USA **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 – Chicago IL, USA **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 Signal 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++

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].

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**
- University of Wisconsin – Green Bay Men's Swim Team (NCAA D1) **Sep 2017 – May 2022**