

# Keshara Weerasinghe

## Curriculum Vitae

✉ cjh9fw@virginia.edu

🌐 Website

🐙 GitHub

🌐 LinkedIn

📄 Full Resume

## WORK EXPERIENCE (SELECTED)

CURRENT, FROM AUG 2022 (FT)

University of Virginia

**Research Assistant, Teaching Assistant**

During this time, I am working on fine-grained human action recognition for robot-assisted surgery, cognitive assistant systems for emergency responders on resource-constrained edge devices, and open-source multimodal datasets for skilled activities. These works have been published on **ICRA, IoTDI in CPS-IoT week of 2024**.

SEP 2021 – DEC 2022 (PT)

University of Peradeniya

**Research Assistant**

This position involved developing an anomaly detection system for injection molding using computer vision, enabling real-time safety monitoring in industrial automation. This system has been deployed in Mona Exports pvt ltd in Sri Lanka and is functioning to this date.

MAR 2021 – SEP 2021 (FT)

99X

**Intern Software Engineer**

In this internship I worked on internationalization frameworks, authentication integration, localization management APIs, performance monitoring, static code analysis with CI/CD pipelines, private registry deployments, and API integrations for status management portals.

## PUBLICATIONS (SELECTED)

**Weerasinghe, K.**, Janapati, S., Ge, X., Kim, S., Iyer, S., Stankovic, J. A., & Alemzadeh, H. (2024) **Real-Time Multimodal Cognitive Assistant for EMS**, in 9th **ACM/IEEE IoTDI** Conference on Internet of Things Design and Implementation at CPS-IoT Week, Hong Kong

**Weerasinghe, K.**, Roodabeh, S. H. R., Hutchinson, K., & Alemzadeh, H. (2024) **Multimodal Transformers for Real-Time Surgical Activity Prediction**, in 9th **ACM/IEEE IoTDI** Conference on Internet of Things Design and Implementation at CPS-IoT Week, Hong Kong

**Weerasinghe, K.**, Tennakoon, S. C., Kularatne, K. N. U., Nawinne, I., Ragel, R., & Jayakody, H. (2021) **Using Near-Infrared Spectroscopy for Vein Visualization**, In **IEEE ICIAFS** 10th International Conference on Information and Automation for Sustainability

## AWARDS (SELECTED)

- 2024 **Runner-up: Best Research Poster**  
*ECE Research Poster, University of Virginia*
- 2021 **Best Research Article**  
*EscaPe, University of Peradeniya*
- 2021 **Best Project: Covid-19 ICU RPMS**  
SLASSCOM Ingenuity Awards 2021
- 2019 **Winner: Agriculture Category**  
ACES Hackathon

## EDUCATION

CURRENT **PhD Computer Engineering**

ADVISOR: HOMA ALEMZADEH

GPA: 3.82

*University of Virginia*

2016-2021 **BSc Computer Engineering**

GPA: 3.70

*University of Peradeniya*

## REFERENCES

NAME **Dr. Homa Alemzadeh**

EMPLOYER *University of Virginia*

NAME **Prof. Roshan Ragel**

EMPLOYER *University of Peradeniya*

## SERVICES (SELECTED)

- 2024 **Voluntary Mentor**  
*Senior Capstone Project  
Charlottesville High School*
- 2024 **External Reviewer**  
ICCPs 2025, IEEE S&P 2025, ICRA 2025
- 2021 **Voluntary Developer**  
Covid-19 ICU Patient Monitoring System
- 2021 **Voluntary Mentor and Teacher**  
Arduino for High School Juniors

## PROJECTS (SELECTED)

*Data Collection System for Emergency Medical Services – Ongoing Research*

Developed a unified software and hardware platform for recording surgical robot video, surgeon hand, and foot movements synchronously utilizing devices such as BlackMagic SDI recorders, TrakStar electromagnetic location tracking devices, and SDKs.

*Context-Aware Augmented Reality for Cognitive Assistance in EMS – Ongoing Research*

Developing a context-aware AR cognitive assistant system for cooperative situational awareness in medical emergencies utilizing multimodal data and a video-based action recognition model optimized for resource-constrained devices.

*COVID-19 Real-time ICU Patient Monitoring System | Voluntary Project*

Designed and implemented a real-time remote ICU monitoring system within 3 days, enabling centralized monitoring of patient vitals to reduce health personnel's exposure risk.