Contact

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www.linkedin.com/in/akhil-v-k-21069711b (LinkedIn)

Top Skills

Design of Experiments (DOE)
Large Language Models (LLM)
Empirical Research

Languages

English (Full Professional)
Tamil (Native or Bilingual)
Hindi (Native or Bilingual)
Telugu (Native or Bilingual)

Certifications

Data or Specimens Only Research
RCR for UR Graduate Students and postdoctoral appointees
Conflicts of Interest

Honors-Awards

Best Project Award
Best Scientific Poster Honorable Mention Award - Deep Learning applications in CAD.

Akhil V. Kasturi

PhD Candidate | Healthcare AI | Generative Foundational Models | Graduate Research Assistant @ University of Rochester | UWestern Alumni
Rochester, New York, United States

Summary

As a Graduate Research Assistant and an AR/VR PhD Trainee at the University of Rochester, I am passionate about advancing the fields of computer vision, medical imaging, and augmented and virtual reality. I have over two years of research experience in developing and applying cutting-edge techniques for medical computer vision, signal and image processing. I have published two papers in IEEE conferences and 5 others in SPIE, and received multiple awards for my academic excellence and innovation. I hold a Master of Engineering in Electrical and Computer Engineering from Western University, a Master's degree in Project Management from Fanshawe College, and a Bachelor's degree in Electronics and Communications Engineering from SRM University. I am eager to contribute to the scientific community and the society with my skills, knowledge, and creativity.

Experience

University of Rochester
3 years 1 month

Research Assistant
August 2022 - Present (3 years 1 month)
Rochester, New York Metropolitan Area

VLM | LLMs | Computer Vison | Medical Imaging | Signal and Image Processing

Graduate Teaching Assistant
August 2023 - August 2024 (1 year 1 month)
United States

Department of Computer Engineering

Carestream Health Research Project
August 2022 - August 2023 (1 year 1 month)
Rochester, New York, United States

This research was conducted in collaboration with CareStream Health.

Under the supervision of Prof. Axel Wismuller, our team worked on detecting indwelling tubes and lines on chest X-rays. We analyzed and created various efficient deep-learning models based on transformers and UNet for the landmark detection, classification, and segmentation of indwelling tubes and other important anatomical points in chest radiographs.

As part of this project, we worked closely with the Imaging Sciences department at the University of Rochester Medical Center to manually label and create a dataset of chest X-rays from abnormal cases.

National Science Foundation (NSF)
AR/VR PhD Trainee
August 2023 - Present (2 years 1 month)

OZ Optics Ltd.
Software Engineer
September 2021 - September 2022 (1 year 1 month)
Ottawa, Ontario, Canada

1. Responsible for developing inhouse and customer softwares in C++ and Python leveraging various communication protocols like TCP/IP, USB, GPIB/HPIB, Modbus, I2C and SPI and interface them with various kinds of instrumentation and data acquisition systems.

2. Responsible for software and PC GUI design for new products/equipment, manufacture (Calibration and QA software and customer GUIs.

3. Researched and introduced a new Optical Signal to Noise Ratio Generator calibration technique by working closely with Project’s lead scientist and the device’s firmware engineer.

4. Responsible for software development, update, release, and version control.

Western University
8 months

Graduate Research Assistant
January 2020 - August 2020 (8 months)
London, ON, Canada

Audiology Research Project at National Center for Audiology
January 2020 - August 2020 (8 months)
Ontario, Canada

This research is in collaboration with the National Center for Audiology, Canada, and Ahead Simulations, Inc.
Researched the behavior of pure tone frequencies projected through a human ear in anechoic and non-anechoic environments, at different frequencies. These results were utilized to comprehend the different components that contribute noise to an audio tone produced by hearing aids in a human ear, such as bone conduction, crosstalk, ambient noise, and so on. Using these findings, a Fast Fourier Transform-based algorithm for simulating audiograms is developed. This algorithm-based python software was presented in an Nvidia Jetson-Nano-based SBC board, integrated in a mannequin-based robot featuring 3D printed silicon ears. This robot will be potentially employed in audiology and hearing aid research at the university.

A team of audiologists from the UWO’s National Center for Audiology, validated and evaluated this project.

SRM University
Undergraduate Research Assistant
December 2018 - April 2019 (5 months)
Chennai Area, India

Worked in Monopole Wideband and Ultra-Wideband Antennas for applications of 5G, Military, Medical, and Wireless Body Area Network applications. As a part of my research, I have designed and fabricated a Monopole Wideband Antenna using Teslin substrate and also submitted 2 research papers based on the research work I have done.

All my above mentioned research work has been done at the "Wireless Communications Lab - SRM", under Dr. P Sandeep Kumar, Asst. Prof, Department of ECE, SRM Institute of Science & Technology.

Education

University of Rochester
Doctor of Philosophy - PhD, Computer Vision, Biomedical Signal and Image Processing

University of Rochester

Master of Science - MS, Medical Computer Vision · (2022 - 2024)

Western University

Master of Engineering - MEng, Advanced Signal Processing And Machine Learning · (2019 - 2020)

Fanshawe College

Master's degree, Project Management · (August 2020 - August 2021)

SRM University

Bachelor’s Degree, Signal and Image Processing, ECE · (August 2015 - July 2019)