Contact

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(LinkedIn)

Top Skills

Python (Programming Language)

Java

C++

Certifications

Python Data Structures by University
of Michigan on Coursera.

MTA: Introduction to Programming
Using Java - Certified 2019

Programming for Everybody (Getting
Started with Python) by University
of Michigan on Coursera. Certificate
earned at Thursday, December 5,
2019 9:12 AM GMT

Publications

Geometric Calibration of Single-Pixel
Distance Sensors

Dev Mehrotra

Master's in CS @ University of Wisconsin-Madison
Madison, Wisconsin, United States

Summary

I build stuff.

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Experience

Bick Lab
Research Assistant
February 2023 - Present (8 months)
Madison

• Developed a novel system utilizing contact
microphones to record insect activity within plants
and employed Convolutional Neural Network (CNN)
techniques for audio analysis.
• Designed and implemented hardware components
for the insect recording system, including contact
microphones and accompanying circuitry, while also
developing a deep learning model architecture for
insect acoustic analysis.
• Conducted lab tests and experiments to validate the
system's performance, achieving high-quality insect
recordings, and trained the CNN model on a large
dataset of labeled insect audio recordings for
accurate classification and identification.
• Collaborated with entomologists and plant biologists
to interpret the CNN model's outputs, providing
valuable insights into insect behaviors and ecological
interactions within plants

University of Wisconsin-Madison
Research Assistant
October 2021 - December 2022 (1 year 3 months)

Published a research paper on a machine learning calibration procedure that
can accurately determine the pose of a single-pixel distance sensor.

Utilised the STM32 Nucleo environment and wrote code in C in order to gain access to low-level histograms from a single-pixel distance sensor.

Designed and performed tests to sense the accuracy of different single-pixel distance sensors using Arduino.

Developed a 3D model of a UR5 robot arm with a custom end effector to be used in various experiments using Moveit and Gazebo.

UW Robotics
Software Programmer
June 2021 - December 2021 (7 months)
Wisconsin, United States

Currently working on integrating IK with the robotic arm.

Used VectorCAN Analyzer to improve the controller area network and make it more efficient.

Created a HUD for the Rover System using Python and Flask.

The Social Union, Mindus.in
Freelance Graphic Designer
April 2021 - December 2021 (9 months)

Create Graphics/Posts Design for the writing team to post on various media platforms using Illustrator, Photoshop, and Premiere Pro.

Education

University of Wisconsin-Madison
Bachelor of Science - BS , Computer Science · (September 2021 - May 2023)

University of Wisconsin-Madison
Major, Data Science · (August 2021 - May 2023)