Andy Gatza

Results-driven Computer Science student with good technical skills and an eagerness to learn and excel at whatever challenges arise. Assesses risks, troubleshoots problems, and conducts tests. Excellent communication and teamwork abilities.

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EDUCATION

Depaul University

Chicago, IL • 2020 — Present

B.S. Computer Science (Software Development) 2022
GPA: 3.877/4.0

WORK EXPERIENCE

Software Engineer, Depaul IDLab

Chicago, Illinois • March 2022 — Present

Work with other engineers to research, develop, and optimize various computer vision and deep learning models for different problems.

Explore and analyze unstructured data like images through image processing.

Take ownership to drive computer vision solutions and meet customer requirements.

Develop custom computer vision applications/solutions to meet customer requirements and improve them to address additional customer requirements in the future.

Manufacturing Technician, Abbott

Gurnee, IL • February 2021 — March 2022

Perform all types of complex demand and preventative maintenance and assembly work on semi-automated manufacturing equipment, including programming, troubleshooting, and repair of inkjet printers, sealing equipment, pouching equipment, vision systems, labeling, and feeding equipment along with other equipment of similar type.

Designed a quality assurance vision system to determine the quality of a strip relative to a base model. Used a raspberry pi 4 and the OpenCV library to create a cost-efficient solution that updates 10 times every second, demonstrating the ease with which computer vision can be developed/integrated.

Designed and implemented a monitoring system for Zebra label printers that both monitored active status and reported error conditions and history.

PROJECTS

Custom Low Cost Vision System Framework

February 2021 — Present

Designed and created a vision system that uses multiple pre-processing techniques to allow for a surface to be evaluated for damage and scratches regardless of orientation. Emphasis was placed on the price-point and explainability of the underlying algorithm, such that its utility could be expanded based on the intended use.

Custom MQTT Implementation in C

January 2018 — April 2018

Implemented a broker-subscriber communication library following the MQTT communication protocol. Supports most basic functions, and allows for linking to projects without requiring a shared library. Used to communicate on proprietary hardware with limited bandwidth issues to a Raspberry Pi.

Image-String Decomposition

December 2021 — December 2021

Designed and wrote a program to mathematically determine a set of instructions that, when applied to a jig with a single spool of string, recreates any given image through the clustering of overlapping strings. Includes both

proving that the underlying integral calculation will produce adequate results and determining how different image characteristics are mathematically interconnected.

PROGRAMMING LANGUAGES	Python, Java, C++, C, R, Scala, z80 Assembly, SQL
INDUSTRY KNOWLEDGE	Computer Vision, Image Processing, Virtualization, Networking, Linux, Git, Visual Studio