Samuel ***Church***

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Education

University of Wisconsin — *Madison, WI*

M.S. in Computer Sciences — *Expected December 2024*

- GPA: 3.6/4.0
- Relevant Coursework: Machine Learning, Computer Vision, Mathematical Foundations of Machine Learning, Advanced Deep Learning

Michigan State University — *East Lansing, MI*

B.S. in Computer Engineering — *August 2018 - May 2022*

- GPA: 3.9/4.0
- Minor in Computational Science, Mathematics, and Engineering

Work Experience

Graduate Researcher — *Madison, WI*

Multimodal Perception Lab — *January 2023 - Present*

- Investigated and implemented methods of tracking-by-detection for multiple object tracking in order to develop an object-centric video dataset
- Conceived and executed a series of experimental protocols to fine-tune hyperparameters for tracking and detection algorithms
- Crafted visualizations to conduct a thorough assessment of system failure modes, employing both qualitative and quantitative approaches to provide a comprehensive analysis of system performance

Teaching Assistant — *Madison, WI*

University of Wisconsin - Madison — *August 2022 - Present*

- Provided comprehensive support to students in both introductory and intermediate Java programming courses
- Skillfully guided and facilitated interactive lab sessions for classes with 10 or more students, fostering meaningful discussions around course content
- Crafted assignments tailored for large classes of over 800 students to effectively assess their mastery of introductory programming concepts

Research Technician — *East Lansing, MI*

GENISAMA — *May 2020 - May 2022*

- Developed machine learning Android applications that performed training and testing for real-time, on-device stereo disparity detection
- Generated visualizations to enhance the interpretability of machine learning model decisions
- Presented to Michigan State University's AI Club on machine learning fundamentals, stereo images, and developmental learning

Automation Intern — *Ann Arbor, MI*

Opus IVS — *May 2021 - August 2021*

- Designed and implemented an in-house expense reporting application, catering to the requirements of over 100 employees

Professorial Assistant — *East Lansing, MI*

Circuits, Systems, and Artificial Neural Networks Lab — *August 2019 - April 2020*

- Built and tested TensorFlow-based projects focused on deep learning techniques applied to American Sign Language (ASL) video datasets

Information Technology Intern — *East Lansing, MI*

Fraunhofer, USA — *August 2018 - May 2019*

- Produced a versatile company slideshow system capable of seamlessly presenting information from various formats, including images, PowerPoint files, videos, and more

Skills

Programming Python, Java, C/C++, MATLAB, PyTorch, CUDA, Unity

Miscellaneous Linux, Microsoft Office, Git, Data Visualization, Arduino

Publications

Optimal Developmental Learning for Multisensory and Multi-Teaching Modalities

J.A. Knoll, J. Honer, S. Church, J. Weng

2021 IEEE International Conferences on Development and Learning (ICDL), 2021

Fast Developmental Stereo Disparity Detectors

J.A. Knoll, V.N Hoang, J. Honer, S. Church, T.H. Tran, J. Weng

2020 Joint IEEE 10th International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EpiRob), 2020