LUCA MANOLACHE

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EDUCATION

Palo Alto High School *June 2023*

EXPERIENCE

Palo Alto High School Robotics Team October 2019 - Present
Software Lead *Palo Alto High School*

- Coordinating the software team (12 developers).
- Worked on SightWalk project - "Outdoor blind navigation", runner up at the International 2021 FIRST Innovation Challenge presented by Qualcomm. Project uses OpenCV and machine learning to implement a sidewalk navigation device for visually impaired pedestrians using CNNs.
- Designed and implemented software for robot shooter targeting, using OpenCV and Java.
- Set up and training for github, CI/CD, build and dev environments.
- Implemented PID controllers and other controllers, fine-tuning and testing the robot.

NASA Ames Research Center/ Intern June 2021 - August 2021
Intern *NASA, Ames*

- Worked on SafeDNN project exploring new techniques and tools to ensure that systems that use Deep Neural Networks (DNN) are safe, robust and interpretable.
- Applied the new techniques to the analysis of deep neural networks.
- Published paper https://arxiv.org/abs/2208.03407.

Auditoria.ai / Intern June 2022 - August 2022
Intern *Santa Clara, CA*

- Worked at local startup Auditoria, which automates finance processes
- Worked on identifying structured elements of financial documents using Deep Neural Networks (DNN).
- Used OpenCV and PyTorch to detect table elements in PDFs

Altoponix December 2021 - January 2022
Computer Vision Developer *Palo Alto*

- Worked with OpenCV stereo vision to find depth maps

PAPERS

An Overview of Structural Coverage Metrics for Testing Neural Networks August 2022

Usman, M., Sun, Y., Gopinath, D., Dange, R., Manolache, L., Pasareanu, C.S. (2022). An Overview of Structural Coverage Metrics for Testing Neural Networks. ArXiv, abs/2208.03407.

TECHNICAL STRENGTHS

Computer Languages	Java, Python, C++, Rust, Javascript
Libraries	PyTorch, OpenCV, Flask, Numpy
Tools	Git, Vim, Tensorboard