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LUCAS IVAN KRUGER

COMPUTER VISION AND MACHINE LEARNING ENGINEER

4 years of hands-on experience designing and deploying computer vision and deep-learning solutions in startup and enterprise environments.

Techs: Python, C++, PyTorch, OpenCV, Docker/Nvidia-Docker, YOLO, Azure IoT, Google Cloud, AWS, ClearML, MQTT, ONVIF, Nvidia Jetson

RECENT WORK EXPERIENCE

• Computer Vision & Machine Learning Engineer at HME

May 2024 - Present · **1 yr 8 mos** [Carlsbad, **United States**] [Applied Computer Vision, B2B]

RESPONSIBILITIES

- Deploy & maintain CV workloads on Jetson Orin Nano Super via Azure IoT Edge.
- Develop and train custom models (vehicle detection, inter-camera RE-ID).
- Define and maintain the full data pipeline (collection, preprocessing, pseudolabeling, labeling).
- Coordinate with external labeling partner: set annotation guidelines, review quality, and ensure on-time delivery.
- Manage experiments, evaluations & deployments with ClearML.

KEY ACCOMPLISHMENTS

- Launched "Nitro Vision AI" now live in 20+ stores; scaling to hundreds by Q3 2025.
- Achieved 0.90+ mAP-50 on validation/test; reduced false positives by 20% in adverse conditions (snow and rain).
- Developed a production-level RE-ID model to track vehicles across cameras.
- Improved labeling time by 30% using the "exclusion zones" concept in the dataset.

• Computer Vision & Machine Learning Engineer at Agot

Nov 2023 - May 2024 · **8 mos** [Pittsburgh, **United States**] [Applied Computer Vision, B2B]

RESPONSIBILITIES

- Deploy and maintain CV projects in **JETSON ORIN, JETSON XAVIER, and Google Cloud Run jobs.**
- Develop and train custom models (detection, segmentation, key point detection).

KEY ACCOMPLISHMENTS

- Finished production-level project: waste report system (**weekly waste reduced in stores**).
- Experience using the **Google Cloud suite for jobs, metrics, and alarm creation.**
- Improved skills in **agile** methodologies.
- Adapted to an English-speaking environment.

• Computer Vision & Machine Learning Engineer at Zowllabs

Feb 2022 - Nov 2023· **1 yr 8 mos** [Buenos Aires, **Argentina**] [Applied Computer Vision, B2B]

RESPONSIBILITIES

- Led small teams in **production-level** projects.
- Infrastructure for developers: VMs, Nvidia Docker, and Jupyter Notebooks.
- Develop and train **custom models** using TensorFlow and PyTorch.
- Deploy computer vision systems in **NVIDIA JETSON NANO** and the cloud (Heroku).

KEY ACCOMPLISHMENTS

- **Finished production-level projects:** PPE, ADAS, bars segmentation, and danger zone alarms (**reducing accidents**).
- Created custom datasets for **Custom Objects, keypoint detection, and semantic segmentation.**
- Improved efficiency by implementing **SOTA** (State of the Art) models like **YOLO v8 or SAM.**

EDUCATION

Master's in Computer Science, University of Buenos Aires

March 2017 - June 2026 [Buenos Aires, Argentina]