

# Axel Mendoza — Computer Vision Engineer

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*Searching challenges in a Deep Learning related field*

## Skills

### Programming Skills:

Python	SQL	C++
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**Frameworks:** PyTorch TensorFlow Keras OpenCV  
Sklearn Numpy Pandas Matplotlib

**Tools:** AirFlow Git Linux GCP CI/CD Docker

### Expertise:

- Medical Imaging
- Object detection
- Multi Object Tracking
- Object Re-Identification
- Pose Estimation
- Autonomous Driving

**English:** Fluent *lived in the US*

**Spanish:** Bilingual *hispanic origins*

**French:** Native *mother tongue*

## Papers

### Deep Learning for Vessel-specific Coronary Artery

*European Heart Journal, 2021*

- Co-author for Oxford University world famous journal at Siemens.

## Projects

### Autonomous RC Car 🚗 📷 2017

*Python, Keras, OpenCV 12 months*

- Remote-controlled car that predicts speed and steering angle in real-time.
- 3rd at **IronCar** Summer 2018 and 1st at **RobotCars** Winter 2018 tournaments.

### Machine Learning From Scratch 🐍 📊 2020

*PyTorch, Numpy, Pandas, Seaborn 3 months*

- From scratch implementation of the most used algorithms in machine learning.

## Experience

### BOXY 🔗 Dec 2020

*Computer Vision Engineer, Paris Current*

- Designed person tracking and re-identification systems of an **autonomous grocery store**.
- Enhanced **product attribution** using Pose Estimation.
- Created a semi-automatic **annotation pipeline** to generate data for Deep Learning using Airflow and GCP.
- Managed and trained a team of 4 annotators on bounding box and pose video annotation.

### SIEMENS 🔗 Apr 2019 - Jun 2020

*Computer Vision Engineer, US 14 months*

- Improved physician diagnosis of **heart disease** by creating a coronary calcium detector trained with Unet and Pytorch.
- Improved heart disease diagnosis by **classifying calcium** in high and low risk arteries.
- Optimized model complexity to fit hospital needs by designing a faster approach using ResNet3D.
- Enhanced detection of **mitral valve regurgitation** by creating a blood flow dealiasing model using Unet trained on 3D color doppler data using Pytorch and C++.
- Automated the training of these algorithms using AirFlow.

### ENGIE 🔗 May - Nov 2018

*Computer Vision Intern, Paris 7 months*

- Improved security of power-plants by designing a **multi-camera vehicle re-identification and tracking** system using Keras and TensorFlow.
- Adapted a pedestrian re-id to vehicle tracking.

### SAP 🔗 Feb - Jul 2016

*Software Engineering Intern, Paris 5 months*

- Improved the quality of an excel pluggin by designing an **automatic testing platform** using SQL and Python.

## Education

### EPITA Apr 2018

*Computer Science, Data Science Major 5 years*

- **Top 10** computer engineering master degree and machine learning program in Paris.