Doctorate Program – Deep Learning Q-Vision

We want concrete colours on our cars. Without blemish. Without mistakes. Let us do so!

If you have a passion for cars and if you like to work in a dynamic, young and international atmosphere - SEAT is the place to be. We offer a 3-year Doctorate Program (PhD) to professionals with training in Artificial Intelligence or Automatic, Robotic and Vision and a fluent level of Spanish and English for the development of a project within the Production department jointly with the UPC of Barcelona.

What is the project about?

This project is about the automated surface inspection tunnels that are realized during the Painting Process of the car. It is important that the surface is exactly analysed by high quality technologies. The inspection tunnels use high quality technologies to detect micro defects. This is done with the help of sensor data, video recordings and photocompositions that take about 27.000 pictures to get a precise analyse regarding brightness, tone and saturation. We want to add data from our hundreds of sensors in the process in order to relate them with the diagnosis of the quality defects of the painting process to be the basis of future predictive maintenance projects.

Due to new technologies like Artificial Intelligence, Machine Learning, Deep Learning and Computer Vision, the painting process can be improved and higher quality results can be achieved.

The aim of this project of investigation is to reduce quality surface defects. The diagnosis process will be automatized and digitalized, so that the availability and optimization of the maintenance of Paint Shop Installations will finally be improved.

What will you do?

- Preliminary diagnosis of the finish lines in order to apply the suitable repair technic of each surface defect.

- Extracting data of the coating process with data-driven techniques and deep learning vision methodologies.

- Analysis of surface defects and its root causes correlated to malfunctions in the paint shop process.

- Application of new data-driven methodologies to achieve precise surface inspections.

What are we looking for?

Academic training/education:

- Degree / Bachelor in Industrial or Informatics Engineering.

- Master or Higher Degree in Artificial Intelligence or Automatic, Robotic and Vision.

Complementary knowledge:

- Machine Learning/ Deep Learning.

- Artificial Intelligence.

- Knowledge of R-Studio, Python, Pytorch, Tensorflow and/or Matlab.

- Image processing.

- Data analytics.

Valuable knowledge:

- Service-thinking methodologies.

Languages:

- Must be able to speak, read and write Spanish and English. Third language a plus.

Other requirements:

- Capacity for abstract thinking, critical analysis and complex problem solving.

- Experience in teamwork and multi-disciplinary team.

- Good communication skills.

What do we offer?

- Competitive salary conditions.

- Full time position.

- Work location: Barcelona HQ.

- International environment.

- Start: February 2019.

Apply