Perception Engineer

3D Vision and LiDAR · Founding Team 2027 · AUX-ENG-SD-04

Reference	AUX-ENG-SD-04	**Level**	Mid to senior, 5+ years
Reports to	Dr. Mamdouh Yanni, Founder and CTO	**Location**	On site in Dubai, at the first service bay and the pilot workshops
Employment	Full time, UAE employment contract	**Start**	Among the first hires once our Seed round closes (target 2027)

About Auxionetics

Auxionetics Artificial Intelligence L.L.C S.O.C is an IP-led robotics company in Dubai. Our patent-pending technology aims to let people and robots work safely side by side, and its first use will be the Smart Robot Mechanic: a car-service bay in which two collaborative arms will take on the repetitive, physically demanding work while a skilled technician stays in charge of every job. Six US patent applications and an international (PCT) application have been filed. We will run our own workshops in Dubai and license our Human-Robot Collaboration platform once it runs reliably in daily operation.

Why this role matters

Every car that enters the bay is different, and the robot must know exactly where everything is. You will build the perception that finds the vehicle, its service points and the tools, with the accuracy and the measured uncertainty that safe, force-controlled work depends on.

What you will own

- **Vehicle localization.** Locate the vehicle on the lift and estimate its pose from 3D sensors.
- **Service points.** Detect and localize drain plugs, filters, wheel nuts and other service points, close up and from overhead.
- **Calibration.** Own camera, LiDAR and hand-eye calibration, with checks that run automatically before every job.
- **Accuracy budgets.** Quantify perception uncertainty and agree accuracy budgets with the Lead Robotics Engineer.
- **Data.** Build the datasets, labeling and evaluation pipeline, from open data and simulation to real vehicles.
- **Robustness.** Make perception reliable under workshop lighting, reflections, oil and dirt.
- **Interns.** Mentor our summer intern AUX-INT-SD-03 each year: a defined 16-week project, weekly reviews and the final assessment.

Minimum qualifications

- A degree in computer science, electrical engineering, robotics or a related field.
- 5+ years building 3D perception that ran on real robots or vehicles.
- Strong C++ and Python; OpenCV, PCL or Open3D; deep learning with PyTorch.
- Multi-sensor calibration and point-cloud processing.
- Clear written English.

Preferred qualifications

- A master's degree or PhD in computer vision or robotics.

- Sensor fusion and state estimation.
- Perception shipped on embedded GPUs.
- Automotive or industrial inspection experience.

Your first year

By	What success looks like
3 months	Sensor set selected and calibrated; first vehicle-pose pipeline running on recorded data.
6 months	Service points localized on test vehicles within the agreed accuracy budget, with measured uncertainty.
12 months	Perception running in the first pilot workshop, monitored and improving on real service data.

How we work

- Safety by design. The bay will be engineered to ISO 10218-1/-2:2025 from day one; all work near robotic equipment follows a documented risk assessment and safety induction.
- **Measured, not claimed.** Targets are measured on real vehicles; simulation before hardware, review before merge.
- **Planned tools:** ROS 2, C++ and Python, PyTorch, OpenCV, Open3D or PCL, embedded GPU compute.

What we offer

- A founding role, working one-to-one with a founder who has almost 30 years of engineering experience, including 12 in Silicon Valley.
- Named-inventor recognition for inventions you contribute to.
- A competitive salary; company-paid visa, work permit and health insurance; annual leave and end-of-service gratuity under UAE law.

Conditions. Every offer is conditional on the close of our Seed round, satisfactory checks, a UAE work permit, and an agreement assigning to the company the IP created in employment.

> **How to apply.** Email your CV and a short note on the most relevant perception system you have built to careers@auxionetics.com, quoting AUX-ENG-SD-04. Shortlisted candidates will have a technical interview and a practical perception exercise with Dr. Mamdouh Yanni. CVs are used only for recruitment and deleted within 12 months unless the candidate joins us. **Auxionetics is an equal-opportunity employer** and selects on merit alone.