

Motivational Letter

Dear Hiring Manager,

I am writing to express my interest in the research position in Computer Vision at INESC TEC for the CINDERELA project. With a strong foundation in physics and machine learning, I bring both research and industry experience that I believe that align closely with your team's objectives.

In my industry role, I developed my master's thesis project, focusing on optimizing detection models in a production line system by enhancing how contextual information is fed to models. Additionally, I supported the team in various tasks, gaining hands-on experience in practical problem-solving. Key contributions include:

- Maintained and optimized a data pipeline to process and filter raw production data for inclusion in training datasets.
- Developed a real-time flask application enabling non-ML colleagues to monitor dataset growth and extract insights autonomously.
- Designed a segmentation model to identify defect locations during production, minimizing downtime and improving client satisfaction.

During this period, I strengthened my expertise in Python (using mainly Tensorflow), MLflow, TensorRT, PostgreSQL, Docker, and Kubernetes.

During my research tenure, I contributed to several projects, including:

- Human pose detection using Wi-Fi signal data.
- Applying SHAP methodologies as an explainable AI tool in a facial recognition application.
- Developing lightweight segmentation models for satellite deployment using knowledge distillation techniques.
- (...)

During this period, I strengthened my expertise in Python (using mainly Pytorch).

I am particularly enthusiastic about working with medical imaging, having recently collaborated with INESC TEC colleagues a challenge named CHIMERA, for the MICCAI conference, where we developed multi-modality survival models to predict time-to-event recurrence in cancer prognosis. This challenge has been both highly rewarding and an excellent learning experience, which I consider invaluable. I am confident that my experience, skills, and motivation will enable me to make a meaningful contribution to this project.

Thank you for your attention. I look forward to the possibility of contributing to your research initiatives.

Best regards,

Leonardo Machado Ferreira