R&D AI Challenge- Tech Lead

Introduction

The OutSystems R&D Artificial Intelligence team is transforming user experience in low-code application generations using state of the art AI solutions. Its mission is to make our products smarter and enable anyone to create groundbreaking applications faster than ever, and with higher quality. We are embedding AI into the fabric of our organization and products and we're looking for talented and driven Research Scientists to help us get there.

This assignment will give you the opportunity to work on a real-world AI problem that requires you to use all of the different skills we look for in a Research Scientist, within a timebox.

At the end of this assignment, you will be expected to share all the produced code, documentation, and other artifacts, as well as a slide deck describing your approach and results, which you will have the opportunity to present to our team. Our main goal is to observe and discuss the technical choices you have made.

This challenge is not only a way for OutSystems to know more about you and how you work but also for you to interact and learn more about OutSystems and its culture. We also hope you **have fun** and also use this opportunity to **learn**.

Details

What is the Assignment?

1. Coding task: Given the Enrico dataset, write a model that automatically generates the view hierarchy tree structure from a description. At this point you are only interested in the high-level tree structure, so the fields *resource-id*, *ancestors*, *clickable*, *class* and *bounds* do not need to be generated.
2. (Optional) Bonus point for generating an example of the UI as an image. For that you can use the other parts of the linked dataset.

How much time do I have?

You have around **1 week** to work on this assignment. If you need more time please reach out and we can extend the deadline.

After the end of this period, we will review the results and schedule a session for the presentation. **This session will occur at our offices or via zoom and will take 90 minutes**, between your presentation, Q&A and deep-dive interview.

What are the deliverables?

By the end of this assignment's time you are expected to deliver:

- All of the produced **Code**.
- Any additional documentation and materials that might be useful to understand your approach.

What are the evaluation criteria?

We will be looking holistically at how you approached the problem. These are some of the things we'll be looking at:

- Can you justify all your choices and solutions?
- Do you deeply understand what was done and why?
- Which model did you use and why?
- What is the performance of your model, what metrics did you use to evaluate it?

- Is the solution technically sound?
- Does the approach work in a real-world production scenario?
- Did you understand the dataset? Did you document your findings (e.g. through visualizations or statistics)
- Is the documentation good?
- Are the results good?
- What is the code quality?
- How did you expose your code to the user?

Notice that there are many more things we value than just the model performance – we want to see how you approached the problem throughout the full Data Science cycle, including how you explored and did data understanding, what experiments you did, what was your feature engineering approach, what algorithms you considered and why, how you measure success, etc.

Who can I contact if I need help?

You will be assigned someone at OutSystems to mentor you through this challenge. **You are encouraged to reach out to them with questions**, to clarify requirements, and to validate assumptions you would like to make or just to do a status check.

Honor Code

Trust and autonomy are **core values** at OutSystems and we bring this to our hiring process as well. That's why we're using a public challenge.

Since we're trying to simulate a real work scenario, it's ok to do some research on ideas and overall approaches but we expect you to design and implement your solution on your own.

Feel free to reach out to your challenge mentor to clarify any questions.

Challenge Accepted?

We hope you enjoy this exercise and take advantage of it to have fun, challenge yourself and learn. Let's do it!