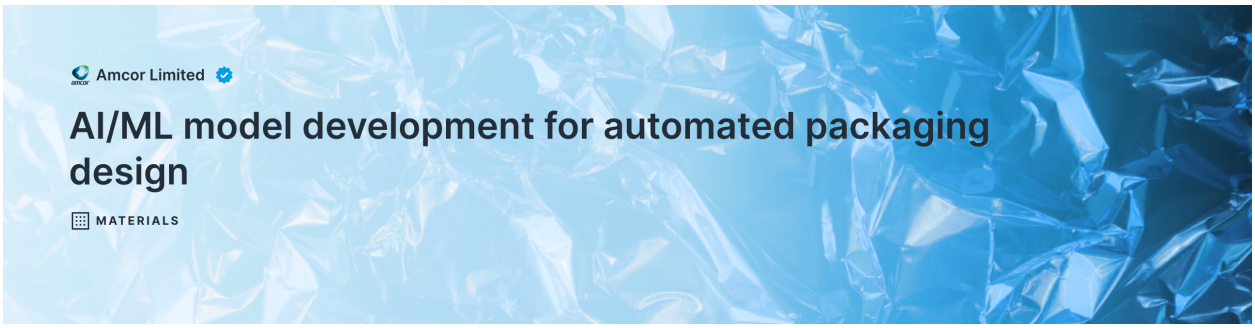

Background

Machine learning (ML) offers a powerful solution to replicate and optimize complex physical systems, presenting an extraordinary opportunity for revolutionizing packaging design.

Amcor is seeking a partner to create a model to automate and optimize the PET (polyethylene terephthalate) container design process, setting new industry standards in the development and manufacturing of custom PET containers.

In 2-step stretch blowmolding of PET (polyethylene terephthalate) containers, the first step is to injection mold the plastic into the shape of a preform, which looks like a test tube with a threaded neck. The design of the preform enables the precise distribution and molecular orientation achieved in the next step, where the preform is then heated and placed in a blow mold. High-pressure air is injected into the preform, causing it to expand and take the shape of the surrounding mold, resulting in the final PET container.

Amcor has a database of successful preform designs and their corresponding container outcomes, but this valuable data has not been utilized to streamline or enhance the design process automatically. Given Amcor's extensive database and experience in this field, there is a unique opportunity to harness this data to develop a dynamic and continually improving AI model.

What we're looking for

We are looking for an AI model that can automate the design process with high level of confidence. Additionally, the model should be modifiable so we can incorporate new data and attributes of interest as they become available.

Solutions of interest include:

- Artificial Intelligence
- Machine Learning
- Automation

Our must-have requirements are:

- Examples of previous models demonstrating effectiveness of the proposed solution
- Must be modifiable to incorporate future data

Our nice-to-have requirements are:

- Solutions that can integrate with existing design software (CAD systems), allowing the translation of AI design outputs into practical CAD drawings, enabling direct manipulation and visualization of designs

Acceptable technology readiness levels (TRL): Levels 2-9

1. Basic principles observed
2. Concept development
3. Experimental proof of concept
4. Validated in lab conditions
5. Validated in relevant environment
6. Demonstrated in relevant environment
7. Regulatory approval
8. Product in production
9. Product in market

What we can offer you

Eligible partnership models:

- Sponsored research
- Co-development
- Acquisition
- Licensing
- Supply/purchase

Benefits:

Sponsored Research

We are able to provide funding for model development. Final funding amounts to be discussed at the appropriate stage of engagement.

Expertise

Partners will have access to experts from the industry (CAD engineer, product development engineer, polymer scientist etc.) to guide them to best practices and current manufacturing processes.

Tools and Technologies

Partners will be able to access our work processes and training materials to understand the development cycle and manufacturing processes.

Data

Selected partners will be able to access to our CAD data as well as real life test data for the duration of project.

Facilities and Services
Partners will be able to access to our pilot plant and analytical labs to generate relevant data.

Who we are

We solve packaging challenges, around the world every day. We develop differentiated products, services and processes to protect your products and the people who rely on them, all around the globe. Drawing on unrivaled heritage in design, science and manufacturing, more than 1000 R&D experts are innovating new materials, formats and technologies to better protect your products.

In 2018 we pledged to develop all our packaging to be recyclable or reusable by 2025. On our journey to our 2025 pledge we are innovating across various sustainability options, delivering you more sustainable packaging solutions under the new EcoGuard™ brand.

Reviewers

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