What does Esko stand for?

Esko is an international software company that develops integrated software solutions which accelerate the go-to-market process of packaged goods. Our products empower teams to support and manage the packaging design and print processes for brand owners, retailers, pre-media and trade shops, manufacturers, and converters. We are a part of Veralto, and together with our sister companies, we safeguard the world's most vital resources.

In order to keep innovating and developing, we are looking for enthusiastic engineers to enforce our development team.

An internship is an excellent opportunity for students to get to know our company and to work in a dynamic environment based around software development.

We have a variety of different internships in different domains which we offer to engineering students.

If you are interested in one of these positions, please apply through the links listed below.

Open positions

#1 CLOUD Data Engineering

Esko collects data from a number of applications (desktop and cloud applications). A typical 'usage tracking' item is an action done by a user at some moment in an Esko application. These items are sent in batches into a cloud service which maintains and indexes them and makes this available to business applications used by commercial people to sell better and by technical people to improve the product.

The amount of data rapidly grows and becomes unmanageably big to keep in a format from which you can rapidly derive information (such as dashboards). This forces us to reduce the data without throwing away the metrics. Meaning that a smart way has to be applied to consolidate raw data into smart metrics that can still provide the necessary information.

Tags: AWS programming, AWS Lambda, ElasticSearch, Data Engineering

Prerequisites: Java

Apply now via this link!

#2 CLOUD UX Development

ESKO is developing applications on cloud platform (AWS). We are also converting existing software to run on the cloud. There is a challenge in creating a common appealing look and feel for all our applications in the cloud.

One way to do this, is to develop a library of react components which will be used in the different apps. This library is being developed and as an internship, you will get the opportunity to define the components, to implement them and to make sure it can be used in different cloud apps.

Tags: JavaScript, React, Storybook, UX

Prerequisites: JavaScript

Apply now via this link!

#3 CLOUD AWS Kafka – event driven architecture

Kafka is the golden standard of event busses.
As an internship, we want to create a proof of concept to see if we can deliver the scalability, and ease of integration of Kafka in Esko Cloud. At the same time, it delivers some value by implementing a basic way to hook up Kafka listeners..

Tags: AWS Kafka, Event bus driven architecture
Prerequisites: Java and/or Scala

Apply now via this link!

#4 Render photorealistic images in 3D

Esko's product portfolio contains software (Esko Studio) to render photorealistic images of packaging designs in 3D.
We want to evaluate the open-source ray tracer: Cycles, part of the Blender project, as a candidate to replace our existing ray tracing engine in order to improve image quality and render performance.

Tags: C++

Prerequisites: C++, basic computer graphics concepts

Apply now via this link!

#5 Evaluation of 3D Rendering Algorithms

Esko's product portfolio contains software (Esko Studio) to design and visualize packaging in 3D. We require an accurate visualization of transparent objects. Due to the nature of Realtime-rendering, this is a non-trivial problem.
One common, but expensive, solution is the 'depth peeling' algorithm. In this project we'd like to explore alternatives.

Tags: C++, GLSL (OpenGL)

Prerequisites: C++ and computer graphics

Apply now via this link!

#6 Collect Stack Trace and Crash details from Desktop Applications over the Cloud

Esko's software portfolio includes several desktop applications that are used daily by tens of thousands of users across the globe. Despite our attention to quality, it can always happen that the application crashes. We would like to identify such stability issues faster, so that we can analyze and fix them. These desktop applications are already connected to our cloud infrastructure. We would like to use that connection to collect and report on crash information.

Tags: C++, Networking, Stack trace, MacOS, Windows, Threading, Instrumentation

Prerequisites: C++

Apply now via this link!

#7 Cross-platform web-view interface for Apple WebKit

Integration of cloud-based services in our products is increasing and will continue to do so. Implementing a web-based interface in our desktop products is becoming a regular requirement. There are several available C++ technologies, with platform limitations:

- QtWebEngine: Platform independent.
- WebView2: Windows.
- WebKit: Mac.

We would like to develop a generic C++ API for displaying web content, that can be wrapped around any available technology. This will allow us to write specific functionality once, while still using different underlying technologies for different platforms. It would also allow us to more easily switch to another technology in the future, only requiring a single implementation for the wrapper API, rather than replacing code everywhere in all of our applications.

Tags: C++, Javascript, QtWebEngine, WebView2, WebKit, Mac

Prerequisites: C++, Javascript

Apply now via this link!

#8 Develop Plugins for parsing JLogg log files

There is a constant need to automate the interpretation and processing of our log files. One example are the log files of WebCenter (SAP like solution for document management) which are huge but which also contain very interesting information. We have already a tool that can process the log files, but this tool needs a better UX and more features to make it more user friendly for Customer Support people.

Tags: UX, Java log file processing

Prerequisites: Java

Apply now via this link!

#9 JFR based monitoring

Currently we use an in-house written monitoring tool while the Java world community is moving to JFR (java flight recorder) monitoring.
Goal of this project is to investigate how we can leverage JFR and generate the same reports that we already have today using information coming from JFR.
We also want to look into using different (new) JFR metrics and how we could adapt them in the future. Strong Java (and related tooling) skills are required for this project.

Tags: JFR (java flight recorder), JMC (java mission control)

Prerequisites: Nothing in particular

Apply now via this link!

#10 Smartly interpret textual content on Artworks (OCR / AI)

Develop a tool that is able to:

1. Extract textual information from an artwork file.
2. Interpret the extracted text, i.e. recognize text groups, and recognize the purpose of these text groups.
   (e.g. whether the extracted text is an addresses or nutritional information or ...).
3. Offer an UI to review the extracted and interpreted text.

Research what are the best techniques to interpret the extracted text data, can we utilize neural networks for this or can this be outperformed by a self-made heuristic algorithm.

Tags: Neural networks, AI, OCR/Segmentation

Prerequisites: Java

Apply now via this link!

#11 UX for email builder

Our software sends out emails to inform users about actions/event that happened. Often these emails need to be customized according to the customer's specifications (brand colors, logo, ...)

We do not have a UI to build these emails. The internship is to build a tool that allow to create and adapt an email template.

Tags: JavaScript, TypeScript, react, java

Prerequisites: JavaScript

Apply now via this link!

#12 Building neural network for simulating spot colors overprints

In our industry, printing packaging in a color correct way is very important. Package printing is often done with other inks than just CMYK. These inks are called spot inks. The red on a Coca-Cola package is printed with a dedicated red spot-ink. When two or more of these spot-inks overprint each other in specific percentages, a new color is created. For spot-inks, it is not possible to measure with a spectrophotometer the overprints of all possible spotcolors because there are thousands of combinations. To predict the color that results from overprinting spotcolors we currently have a mathematical/physical model. However, these models are not always close enough to the printing reality of the customer. The aim of the internship is to build a neural network that can predict how the overprint of spot colors will look like.

Tags: tensorflow, pytorch kennis

Prerequisites: pytorch knowledge is welcome

Apply now via this link!

#13 Algorithm to determine the contrast level of graphical elements

The quality of packages printed with the flexographic printing process improves drastically when the most optimal halftoning technology (or screening technology) is used during the RIP (Raster Image Processing) phase for each graphical element of the design. We had very promising printed results when an experienced human operator tagged the graphical elements in the PDF with the right halftoning technology based on a contrast judgement with the human eye (and brain). The next step is to automatically determine the contrast level for each graphical element and then use these values for the halftone technology tagging.

Tags: Python, C++ or Java

Prerequisites: Interest in image processing, willing to explore AI/Machine learning

Apply now via this link!