Job title	Software Engineer
Salary	£30,000 - 60,000 p.a.

Role Summary

DeepForm Ltd is an early stage start-up company introducing patented sheet metal pressing technology which significantly reduces waste, cost and embodied CO_2 emissions in the high-volume manufacturing of sheet metal components. DeepForm optimises material use by reimagining press tooling.

We are an exciting University of Cambridge spin-out company founded in 2022. Having secured external investment and formed a strategic alliance with a well-known automotive manufacturer we are securing our first customers. This is an exciting time to join at the very early stages in the company's mission to reduce waste and embodied emissions in the manufacturing sector.

We are looking for a Software Engineer to help us leverage software to expedite our tool design process. You will join a small, dynamic team based in Cambridge, UK and your role will be to develop software tools to optimise and automate the application of DeepForm's patented approach to designing press toolsets for customer parts.

You will be required to contribute to specific customer-facing projects in which we use DeepForm's patented 3-D tool surface design methodology to design sheet pressing process layouts to maximise material utilisation, with a likely focus on components used in vehicle bodies.

Key Responsibilities

Recognising and extracting key geometrical features of target vehicle body components	**20%**
Use curvature distribution or other metrics to automatically identify relevant 3D shapes within complex components	
Parameterisation of process simulation inputs, and quality metrics	**30%**
Create automated workflow to generate parameterised 3-D Computer Aided Design (CAD) tool surface models, define Finite Element Analysis (FEA) inputs, run FEA analysis and synthesise output data.	
Use and evaluation of appropriate statistical techniques to generate optimal process designs	**30%**

Use statistical methods and data science tools to combine FEA results and expert input to refine and select optimal tool designs	
Consult with DeepForm engineers and external stakeholders to define clear and effective software requirements	**10%**
Initiate, manage and validate software delivered by sub-contractors	**10%**

Person Profile

This section details the knowledge, skills and experience we require for the role.

Background and Experience	You will likely have a degree in Software Engineering, Mechanical Engineering, Computer Science, or equivalent You would ideally have research or industrial experience in 3-D CAD design or manufacturing and have successfully delivered software tools to industrial customers.
Flexible and motivated to support rapid growth of a new business (Essential)	Independent, self-starter who knows when to consult when key choices/decisions are to be made. Flexible approach to working in an exciting small team with developing formal structures
Experience of developing software to solve engineering problems (Essential)	Be able to work with DeepForm engineers and external partners to understand existing workflows and automate digital tasks (including 3-D CAD geometry representation and Finite Element Analysis). Proficiency in programming languages such as Python, C++, Matlab or equivalent.
Experience of a systems engineering, machine learning or operations research approach to workflow improvement (Desirable)	Ability to develop a software platform to link, automate and optimise existing digital workflows. Employ mathematical optimisation towards design informed by FEA and expert input.
Time management and organisation (Essential)	Able to manage own workload to ensure commitments to colleagues and customers, and are met

Location	ideaSpace City, 3 Laundress Lane, Cambridge, CB2 1SD
Working pattern	Full time Office-based, with some flexibility for hybrid working
Benefits	Share option scheme Pension scheme (up to 5% matched) 25 days annual leave excluding bank holidays

	Office located in centre of Cambridge

Application process

- Send your C.V. and cover letter to: hiring@deepform.co.uk
- Applications close: 10 May 2024 at 12noon BST
- Face to face interviews will be held in Cambridge, UK during the week 20-24 May 2024