

**IT CAN BE DIFFICULT TO FIND A GOOD FITTING PAIR OF GLASSES. IN MY DEGREE PROJECT I WANT TO SOLVE THIS PROBLEM BY UTILISING NEW TECHNOLOGY – SPECIFICALLY 3D SCANNING, GENERATIVE DESIGN AND ADDITIVE MANUFACTURING METHODS. THE RESULT IS A PAIR OF TAILOR-FIT RIMLESS GLASSES, AND A METHOD FOR MAKING THEM FIT EACH SPECIFIC USER.**

I became inspired by the way in which some companies used generative design and machine learning algorithms to find a product form that fit as many peoples needs as possible. In other words they used computers to help them find the right design.

Mass production of exact copies is an effective manufacturing process but it also leads to glasses that don't fit as well as they potentially could. New manufacturing technologies such as additive manufacturing in unison with generative design allow for a flexibility in the form of the product. This flexibility could if utilised the right way give designers a chance to better meet users demands, both aesthetically and functionally.

The main function of glasses is to correct refractive error in the eye and for that purpose a clinical optician and a professor in ophthalmology were interviewed. Prototypes were made to test initial ideas and develop the design. Computer aided design software was used during the project to both analyse the head scans, and shape the product. The result is a design for rimless prescription glasses and a method to fit them to each users unique head shape.

