

Fred Xi Jones
BEng (Hons) (1st) Product Design and Engineering

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Personal Profile

Recent graduate seeking a challenging role as a product design. Proficient in CAD, 3D modelling, rendering and 2D graphics, with strong analytical skills, problem solving ability, and a team player. My passion for design stems from my childhood obsession with observational drawing and trying to figure out how and why things function.

Higher Education

BEng (Hons) Product Design and Engineering (1st) 2019 to 2023
Canterbury Christ Church University

Year 3 Modules

FEA for Mechanics and Materials(60%); Advanced stress analysis(75%); Design & Analysis for Automated Manufacture(70%); Design for Rapid Prototyping, Pattern, Moulding and Tooling(75%); Professional product Design Engineering Project(80%); Industry 4.0 for Manufacture(65%).

Overall 70.8%

Year 2 Modules

Product Design Lifecycle(65%); Computer Aided Engineering and Design (75%); Dynamics of Solid Mechanics & Materials(70%); Human Factors in Designing Systems/Products(75%); Manufacturing Control, Instrumentation & Communication Systems(85%).

Overall 75.8%

Year 1 Modules

Professional practice engineering (with Mechatronics project)(75%); Mathematics & Computing for Engineers(60%); Introduction to Engineering Design(75%); Introduction to Elec/mechanical Systems & Prac-

Employment History

Mechanical Engineering Internship 2021 to 2022
London Engineering and co

I was responsible for updating engineering drawings using the company's ECN Process. I designed a hardware and software user interface to a low-voltage power supply used in the blood analyser's electrophoretic process.

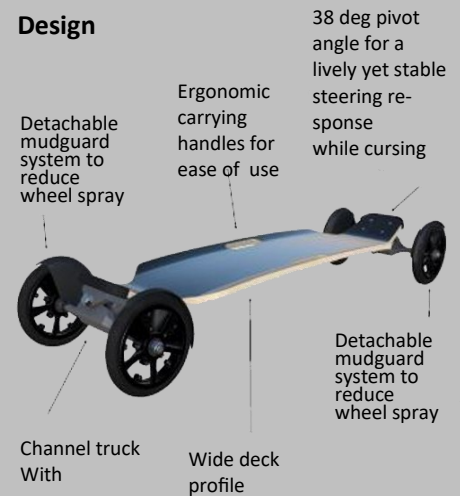
Other project roles I did include R&D, New Product Development, Quality Analysis, Design validation and Prototype building. I also aided in the design of housings and connectors using CAD software.

Examples of Design projects undertaken

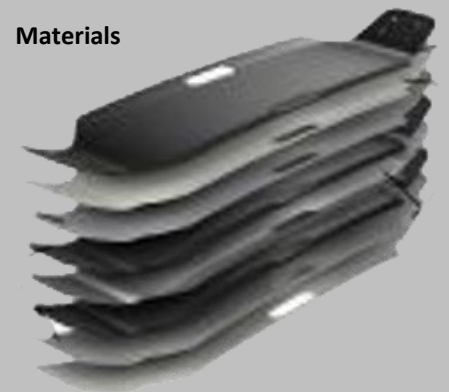
Final Year Project

A novel sustainable skateboard design for UK road conditions

Design



Materials



The deck is constructed from a composite laminate of fibreglass, Galvorn carbon nanomaterial (sustainable alternative to carbon fibre), aluminium 5052 and nylon 6/6. This construction has a high strength to weight ratio, excellent elasticity and high impact resistance. It is also far more sustainable option than conventional maple wood as skateboard pro-



Anodised aluminium 5052 was chosen as the material to manufacture the truck and wheel rims. It provides a suitable strength to weight ratio, durability to weathering and is highly recyclable.

Secretary and general roofing

2019 to 2021

Labourer –part time

Fred Roofing ltd London

I worked as a secretary for the business which entailed being responsible for dealing with customers, handling orders, invoices and general office duties. I have also worked and am currently working as a general labourer/ apprentice.

Retail Sales Assistant

2017 to 2019

JJB Sports Camden

I worked as a secretary for the business which entailed being responsible for dealing with customers, handling orders, invoices and general office duties. I have also worked and am currently working as a general labourer/ apprentice.

Skills and Experience

I have worked in a variety of different jobs in different sectors. This has allowed me to adapt, learn and improve on a wide range of skills including problem solving, interpersonal as well as written and verbal communication. During my studies and mechanical engineering internship, I have developed strong analytical, computational, mechanical and design skills. I have had experience with programming languages: C++, JavaScript and Java. I am proficient in CAD, CAM and 3D software.

Secondary Education

A Levels– College Of North East London

2017 to 2019

Art (A), Design (A), Physics (A),
Maths (B)

Levels– Duke's Aldridge Academy London

2012 to 2017

11 GCSEs including Maths, English,
Art and Science

Interests

I enjoy basketball, football, rock climbing and tennis. I am a member of the Canterbury Christ Church University climbing club, which is a new interest I have developed whilst studying in Canterbury. I am also a member of a football team and have been since a young age. When I was 16 I spent time travelling around New Zealand and Australia. Whilst there I participated in a football league that allowed me to travel around the country visiting new places and meeting many people from different cultures. Whilst I was there I was voted as the best new player of the year and was awarded the role of captain.

References

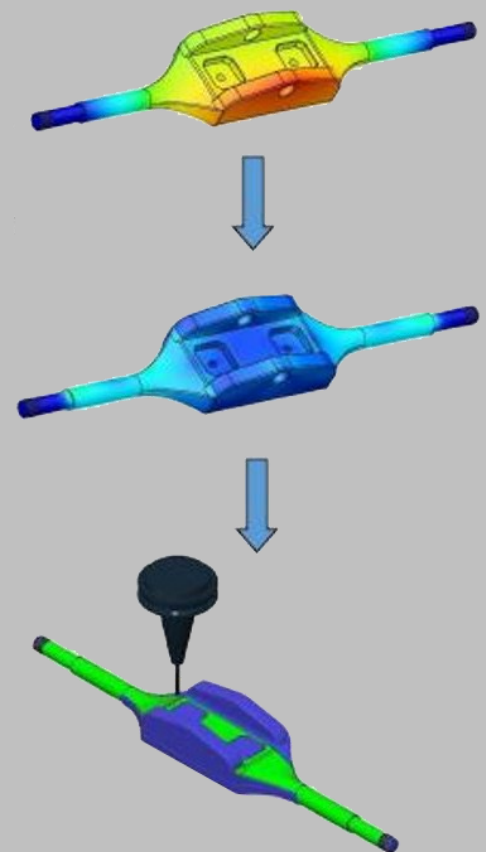
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CAD & CAM



Components of the board were subjected to FEA analysis. By identifying areas of high stress under a calculated load, the design was refined to remove areas of potential failure.

Using Fusion 360 CAM software, machining process were simulated. This produced the G code necessary to manufacture the components using CNC machinery.

Auxetic Structure FEA- Study CAD models of iterations

