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**JACOBS ch2m**

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Dear Sir / Madam

**Summer Design Engineering Internship**

I am a third year ‘Integrated Design Engineering’ student at the University of Bath looking for a chance to join the ‘ch2m’ team in Bristol for a 1-3 month summer internship.

Both design and engineering have been passions of mine since GCSE. Through studying ‘Design and Technology: Resistance Materials’, my interest in making real products and services that benefit the lives of many grew. During GCSE and A level, DT projects focused on using a ‘User Centred Design’ approach. This has lead to me becoming accustomed to performing market research and prototyping in order to generate valuable market feedback. This has been expanded upon during my University studies, especially during my third year ‘User Centred Design’ module. For this module, I was tasked with redesigning a self-service machine for a specific disabled user. I interviewed the client multiple times and iteratively improved the concepts thorough creating low fidelity prototypes and observing the user’s interaction with them. During these projects, a ‘hands on’ engineering and design method was embedded into my approach to tackling any design problem, allowing me to quickly understand the physical limitations of the task at hand.

Through my GCSE and A Level studies, I have also become skilled at a variety of manufacturing techniques such as using centre lathes, CNC lathes, milling machines, 3D printing, laser cutting and even sand casting. This has greatly benefitted my concept generation during University as well as my year in industry with BOSCH Professional Lawn and Garden. All ideas I generated consider costs, manufacturability and assembly method at their forefront, ensuring concepts are rooted in engineering and truly feasible, be it through prototyping or research. This proved useful in University especially during my ‘Mechatronics’ module in third year. A simple method of picking up plastic cups was required and after some concept generation, the simplest idea was to attach bolts onto the cups and use a screw thread to move them. Due to the unpredictable nature of using a moving thread, I quickly created a bespoke shaft with a shoulder and a small M6 thread on one end via a centre lathe and tested the design. Upon testing, certain inconsistencies could not be avoided, hence the system was redesigned.

Good teamwork and communication are also incredibly important to design engineers. I endeavour to constantly improve these skills, be it through work experiences or extracurricular activities. These attributes have allowed me to excel in group projects during University, never dismissing others’ ideas. My first university project was to design an improved child proof pill bottle. We were put in groups with random students and had little time to spare. I was able to unite everyone and attack the problem at hand logically via consideration of the five senses and the effect each had in attracting the attention of children. I was able to communicate clearly and efficiently though sketches and ultimately designed a product, which I am proud of till this day, in under 2 hours.

After researching ‘ch2m’, I have been amazed by the breadth and impact of your work. The services you provide have changed businesses and organisations all over the world and indeed, allowed ‘ch2m’ to become a leading company in its field. Although I specialise in product design, I have studied modules which have emphasised sustainability through teaching the use of tools such as a ‘MECA matrix’. I believe with this my experience in prototyping, teamwork, effective use of many CAD programs and familiarity of user centred design approaches, I would be able to give novel, feasible ideas to producing new highways that customers desire.

I am amazed by your work and would love to show you what I can offer your company. I would be happy to discuss any of my application and am available for an interview at any time.

Yours Faithfully

**Kinkit Wong**