

Bearach Byrne

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PERSONAL PROFILE

Final year mechanical engineering student graduating in October 2019. Key strengths include project management, computer literacy, leadership, teamwork, time management. Engineering interests in computing/CAE/CFD fields. Keen to develop mechanical engineering career with an emphasis on building services .

EDUCATION

2015 - 2019: BEng Mechanical Engineering (DT022, Level 8)

Dublin Institute of Technology, Bolton St, Dublin 1 (Graduating in October 2019 with Lower Second Class Honours)

Relevant Subjects: Fluid Mechanics, Computer Modelling, Thermodynamics, Heat Transfer, Mathematics, Electrical/Electronic Engineering, Computing, Mechanics of Materials, Control Engineering, Design Projects.

Other Subjects: Economics & Management, Engineering Professional Development, Engineering Professional Practice.

Laboratories: Practical laboratory sessions (140 hours approx. annually) on areas such as Computer Modelling, Mechanics of Materials, Fluid Mechanics, Computing, CAD (Solidworks), Thermodynamics, Electrical/Electronic Engineering .

2003 - 2015: Leaving Certificate

St. Mary's College, Rathmines, Dublin 6

Higher Level LC: Maths, Physics, Chemistry, English, French

PROJECTS

Final Year Project (4th Year): Grade Received - 1.1 (73%)

CFD Analysis of a generic medical device designed by the US FDA (FDA Round Robin Study Benchmark #1). Aspects of this project included academic research into fields of CFD, medical device design & regulation, along with CFD modelling and CFD results data management. The project was completed in ANSYS CFX, with results compared against experimental measurements. For this project I was awarded a 1.1.

3rd Year Design Project - Design & Construction of Autonomous Domino Dispensing Machine: Grade Received - 1.1 (80%)

This project required the design and construction of an autonomous device that would take a stack of 10 dominoes pieces and dispense them with varying pitches spacings between each piece. I was the team leader for this project and my technical responsibilities for this project included the design, specification, procurement, and programming of the electro-mechanical control system.

3rd Year Design Project - SAE Formula Student Car Design: Grade Received - 1.1 (77%)

This project required the design and modelling of various components and systems in a mock-up of the 2018 DIT formula student car entry. The areas and topics included in this project were the design of the electrical powertrain, design of the accumulator/battery system & container, space frame chassis design, Solidworks modelling of various parts, FEA of various parts.

1st Year Design Project - Robosumo: Grade Received - 1.1 (79%)

This project was run within DIT and ended with a competition across multiple courses. This focused on the design and manufacture of a "Robosumo", which would be pitted against other autonomous robots in a sumo match ending with one of the robots being knocked out of the play arena. My team of 3 placed 3rd out of 25 teams.

WORK EXPERIENCE

Summer 2019: Sales Assistant - JC Byrne Manufacturing (June - Present)

Responsibilities include photographing stock and premises for website/Google profile, electroplating of jewellery pieces, sales.

Summer 2018: Simulation Engineer (Intern) - CADFEM Ireland (2 Months)

Responsibilities included CFD & Thermal analysis projects, structural mechanics projects, and customer support.

Summer 2017: Busboy/Barback - Teahouse in Stanley Park, Vancouver, Canada (3 Months)

Responsibilities included serving customers, cleaning and resetting tables, and setting up locations for events (weddings, birthdays etc.)

Summer 2016 & 2015: Waiter/Floor Staff - Doheny & Nesbitt, Baggot St (3 Months)

Responsibilities included serving food to customers, cleaning and resetting tables, managing stock in fridges/kegs, and restocking/changing keg taps.

SKILLS

Engineering Computing: ANSYS CFX, ANSYS Mechanical, SpaceClaim, Solidworks, Matlab, AutoCAD, Fusion 360.

ANSYS CFX - Attended the 2 day 'Introduction to ANSYS CFX' Course in CADFEM Ireland in July 2018

General Computing: Experience with the full range of Microsoft Office programs; Excel, Project, Word, PowerPoint, Publisher.

Computer Programming: Python, Matlab, Visual Basic, C++, CFX Expression Language (CEL).

Microcontroller Programming: Arduino, Raspberry Pi, TI Launchpad (w/ MSP430).

Project Management: Experience as an elected project manager for multiple projects over the course of my 4 year degree. Strengths include time management, management of coordination between project teams.

Public Speaking: Experience with public speaking in both technical and non-technical subjects. Awarded the Certificate of Public Speaking (First Class Honours) in 2014 by The Leinster School of Music & Drama.

Product/Component Design: Experience with multiple design projects over the course of my degree (some detailed below).

Component Manufacture: 3D Printing of components (FDM), machining of components (mill and lathe).

Driving: Full Irish drivers' licence (No penalty points).

ACHIEVEMENTS

President of DIT Snowsports Club: June 2016 - June 2018 - Was elected president of the largest sporting club in DIT with over 500 members joining every year. The club organised weekly skiing lessons in the Sandyford Ski Centre, along with the largest annual trip in the institution, with approximately 100-140 members taken abroad for one week every year. Responsibilities included correspondence with college offices, club members, external travel agents, vendors and sponsors.

Robosumo: Team of 3 members placed 3rd out of 25 teams.

Domino Dispensing Machine: Team of 6 members was the only team who were able to design and manufacture a machine that completed the task within the given design specification and time limit.

INTERESTS

Skiing - Advanced level of skiing with many years of experience.

Computing - Very interested in building and upgrading computers and laptops, along with home networking.

Motorsport/Automotive Engineering - Avid fan of Formula 1, among other motorsports. Interested in the automotive engineering industry and related fields.

Cars - Maintenance, automotive photography.

DIY/ Metalwork - Some experience with machining (manual and CNC) as part of my degree, however I am very interested in practical DIY around the home. Keen to develop skills further.

Electronics - Hobbyist interest in electronics.

Photography - Hobbyist photographer with some experience with business photography. Also experience with Adobe Lightroom/Photoshop.

Cooking/Baking - Avid home cook, with some experience in professional kitchens.

Bouldering - Beginner level.

REFERENCES

Contact Information Available Upon Request:

Professor Fergal Boyle
School of Mechanical & Design Engineering
Technological University Dublin

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Managing Director
CADFEM Ireland

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