# Experience Summary

Throughout my industrial experience, I have honed my skills in software development for prototyping, simulation, and production in diverse engineering and software development environments. Taking on various roles and responsibilities has granted me a comprehensive understanding of different disciplines within these fields, enabling me to navigate the process of taking a software device from the prototype stage to regulatory submission. With invaluable expertise and a holistic perspective on product development, I am eager to contribute to challenging and innovative projects.

Skills Summary

* Programming/languages: C#, html, CSS, JavaScript, LabView, MATLAB, Python, CAD & manufacturing, Embedded programming
* Frameworks: .Net Frameworks, Entity framework, bootstrap, jQuery
* Architectural paradigms: MVC, single page application
* Databases: SQL Server
* Methodology: Agile, scrum, waterfall

Experience

**2024 The Tech Academy live project**

During my time at "The Tech Academy" Software Development Bootcamp, I had the opportunity to contribute to the further development of a "Car rental webpage". As a member of a dynamic scrum team, I was responsible for developing three crucial pages for the website. This involved leveraging a diverse range of powerful tools and technologies, including the MVC framework, HTML, CSS, jQuery, and Entity Framework. Through my efforts, these pages were successfully brought to life, showcasing my ability to create seamless user interfaces and implement key functionalities.

**2019 – Present Software Lead in New product development for software as a medical device, DePuy Synthes, Johnson and Johnson, UK**

As the project software lead, I am responsible for ensuring that software development receives the necessary resources and support to achieve objectives. In this role, I perform the following tasks:

* Collect user needs, refine unmet needs, generate problem statements, and create user stories. I lead interactions to gather input from different teams for complex concept evaluation.
* Define system architecture plans, processes, and appropriate tools traceable to the Design requirements.
* Develop high fidelity tools and prototypes as required to assess project requirements and conduct studies with surgeons and sales representatives to better understand design requirements and foster alignment between stakeholders and team members.
* Lead cross-functional projects /sub projects effectively to achieve project deliverables while keeping stakeholders informed.
* Identify resource allocation requirements necessary to implement priorities within the functional group.
* Develop and assess functional project plans that have implications across cross-functional teams; develops mitigations for identified risks.
* Author software specifications and acceptance criteria; evaluate the impact of multiple specifications to each other, and identify and address constraints.
* Lead the software development life cycle (SDLC) process including verification and validation (V&V) activities.
* Plan, Coordinate, and monitor Development and Testing efforts.

**2016 – 2019 Front End Research Engineer, Depuy Synthes, Johnson and Johnson, UK**

My role revolved around utilizing cutting-edge technologies to develop innovative solutions that enhance the well-being of patients and surgeons in the field of orthopedics. I specifically focused on exploring various technologies such as vision systems, data acquisition and control for electromechanical systems and sensors, IoT for data collection and analysis, and wearables. Some of my responsibilities were:

* Customer Engagement: Definition of user needs and the environment in which they were happening to determine problem scope.
* Technology Feasibility and De-risking: Exploration of competitive systems and technologies and selecting the methods that could be leveraged to solve technical challenges.
* System architecture and design: Problem scoping and definition of MVP (minimum viable product) and selecting the correct path and tools to properly execute and achieve objectives.
* Electromechanical/software Prototype Design and Data Analysis: Create a robust and effective proof of concept to investigate the technology capability and gaps and communicate the possible solution with stakeholders.

**2015 – 2016 Innovation Engineer, LINPAC packaging, Featherstone, UK**

As an innovation and design engineer, I developed a machine vision-based technique to improve the monitoring of the mechanical properties of polystyrene foam containers in a high throughput manufacturing facility.

**2012 – 2015 Teaching Assistance, Mechanical Engineering department, University of Leeds, UK**

I conducted laboratories classes for the undergraduate ‘Mechatronics and Robotics’ module.

**2010 - 2011 Design/Project Engineer, Acoustic Applications, Wakefield, UK**

I was part of a team of engineers solving Acoustic (Sound) Problems caused by various sources in extensive industrial sectors, from power stations to aerospace. The products were all bespoke designed to meet the customers’ requirements and acoustic regulations. My job as a design engineer was to conduct a project from conception to completion including sale, engineering drawing, purchasing and manufacturing. Responsibilities:

* Dealing with Customers’ Enquiries directly, understanding the problems and plotting cost/time effective solutions.
* Visiting the customer on the site and collecting information.
* Producing 2D and 3D detail drawings utilizing ExpertCAD and SolidWorks according to customers’ criteria.
* Quoting the projects.
* Purchasing goods from suppliers and creating contacts for the company.
* Presenting reports and demonstrating quality assurance procedures to clients.
* Dealing directly with workshop personnel.

**Summer 2009 Teaching Assistance, Mechanical Engineering department, University of Leeds, UK**

This postdoctoral research was conducted on a Novel Intelligent Heart Assistive Device (iVAD). The main achievement for the project was creating a way to reduce the excessive heat produced by the actuators running the device. As part of the primary goal, a testing rig for the iVAD device was designed and manufactured. Responsibilities:

* Creating various 3D CAD models for the rig using SolidWorks software during the 3-month placement.
* Developing a strong analytical approach to study the data, improve the concept and solve the problems.
* Dealing with manufacturing procedures.
* Involved in designing a LabVIEW Program to control the actuators’ heat.
* Familiarization with different ways of computational and experimental calibration in the laboratory.

Education and Training

**2022 – present The Tech Academy**

**Course:** *C#.Net Framework bootcamp*

Course content: Version control, HTML, CSS, JavaScript, Database and SQL, Visual Studio, C#.NET, Project Management

**2020** **Practical Machine Learning with Python, QA, London**

**2018 Big Data on AWS, QA, London**

**2018 AWS Technical Essentials, QA, London**

**2011-2015** **University of Leeds PhD Mechanical Engineering**

**Thesis Title:** *Colonic Diseases Investigation by Robotic Hydro-colonoscopy CoDIR, Title: Mechanical characterisation of large intestine*

I am involved in a team of 15 postdocs/PhDs aiming to develop a remotely controlled miniature robot that can replace conventional colonoscopy. My PhD project intends to characterise the mechanical properties of the large intestine and to develop a technique to distinguish healthy from diseased tissue while the robot is in operation.

**2006-2010** **University of Leeds MEng Mechatronics and Robotic Engineering**

A multidisciplinary course which combines precision mechanical engineering with electronics, robotics, computer control and artificial intelligence.

* 4th year Project: Design and Analysis of a novel Intelligent Ventricular Assist Device (iVAD) Endurance Testing Rig. Results: **(honours)**
* 3rd year project:Design and Development of a novel Assistive Foot Exercise Robotic System for the Elderly. Results: **2:1**
* **Modules:** Drive and Automation, Product Design and Manufacturing process (Injection Moulding), Intelligent Systems, Mechatronics and Robotics systems (Pneumatic & Hydraulic Systems), Control systems and analysis

**1999-2006 Leeds Ralf Thoresby High School**

Maths (A), Physics (B), Chemistry (B)