Abhinandan Thour

PERSONAL INFORMATION:

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WORK EXPERIENCE:

VPI Manufacturing Engineer – Year Long Placement
Cummins Inc. Daventry, UK (2022 – 08/2023)

- Worked within the VPI team to introduce and support new and unique projects ranging in maturity over two production lines on engine size 38L, 45L, 50L, 60L and 78L.
- Gained hands-on experience assembling engine components on the assembly line.
- Presented manufacturing content in component design reviews and engine integration meetings to international teams.
- Assessed assembly capability of a variety of new, unique and different components by completing virtual and physical fit checks.
- Produced Process Documentation detailing assembly instructions for new and existing products in compliance with Cummins Engineering Standards (CES) and plant quality processes.
- Used Windchill (Product Lifecycle Management) to access and CAD designs and changes to parts during the product development and manufacturing process.

Mechanical Design Engineer – Summer internship
New Motion Lab Ltd. London, UK (08/2020)

- Provided research and development skills regarding the design of a new transmission chain with a new method of power transmission using both sides of the sprocket tooth. Worked on solutions to reduce the chain wear and improve the engagement with the pinion keeping high efficiency.
- Worked on transmission chain testing and on data analysis from physical tests and simulations of different prototypes of the mechanism (Sound tests, wear tests, heat simulations, forces distribution simulations).
- Managed own project and its objectives alongside team meetings and group work.

Mechanic and Mechatronic Technician
CMF SRL. Cremona, Italy (2016 - 2019)

- Operated on CNC machines and CAD software following the customer needs and ISO and UNI standards.
- Assembled and disassembled mechanical parts of industrial CNC machines such as robotic arms, motors and electronic components.
- Analysed industrial machinery functions, their individual components and the thinking behind them (lubrication, electric circuits, different materials).

EDUCATION:

MEng Mechanical Engineering / Aerospace Engineering (Upper Second-Class Honours Degree)
University of Southampton Southampton, UK (2020 - 2024)

- **Third Year modules:** Finite Element Analysis in Solid Mechanics; Aerothermodynamics; Manufacturing and Materials; Wing Aerodynamics.

  Dissertation: Solid Lubrification in Space (Nitrogen dopped MoS2).

- **Second Year modules**: Electronics Drives and Control; Thermodynamics; Fluid Mechanics; Materials and Structures; Mechanics, Machines & Vibration.

  Group Projects: Aircraft Recycling Business Plan, Eurobot, Introduction of Energy Storage systems from renewable sources.

Mechanical Engineering BEng (Av. 89% - 4.41 GPA)
University of Hertfordshire Hatfield, UK (2019 - 2020)

- **First Year Modules:** Introduction to Design; Engineering Application of Mathematics; Fluid Mechanics & Thermodynamics; Materials and Electrical Science; Mechanical Science.

PERSONAL SKILLS:

Languages: English, Italian, Spanish, Hindi, Punjabi

Technical skills:

- **CAD –** Started using CAD at the end of Primary School with AutoCAD, learned how to read technical drawings and make one at industry standard, followed up with Inventor and SolidWorks during my exchange year in Ireland in 2017. Through university, worked on IMechE projects such as ball launcher and EuroBOT which consisted in designing different product following specific guidelines using parametric modelling (Inventor & CATIA). Used CREO during my Placement Year at Cummins to design/work on engine parts. Boeing sponsored project with an autonomous collecting robot, during placement year, used Creo to design engine parts following Cummins Standard.
- **Manufacturing –** Through different own and university projects, gained experience initially in bending and drilling machine to manual and CNC lathe, milling machines (Coded with Fanuc). Capable of welding (Shielded metal arc) and 3D printing used to a RC go-kart model and engine parts.
- **PLC (Programmable Logic Controllers) –** Programmed PLC systems using block diagrams which were uploaded to a controller used to send signals to pneumatic pistons to move in specific sequences and speed.
- **Web Development/Coding** – Front End Developer Freelancer, after an edX bootcamp in 2023, I use the knowledge gained to help the community by making and maintaining websites using ReactJS. Currently studying C++ and Python to create engineering projects involving websites, Arduino controlled parts and Data Management.

Soft Skill

- **Interpersonal** – Having lived in four different countries with totally different cultures, being adaptive and being able to communicate effectively, helped me establish connections with colleagues. The same skill allowed me to succeed with customer service while working in a fast- food restaurant, volunteering and during engineering work experiences.
- **Time management** - Fundamental while playing in chess tournaments. Key skill while working in a start-up with strict deadlines and at Cummins where any engine delays would affect assembly line as well as the customer.

EXTRACURRICULAR ACTIVITIES

Covid-19 Volunteer & Slough CVS Slough, UK (2021 – 2023)

- Led the team to a successful shift by assigning tasks and goals at the beginning of the day.
- Trained members on how to excel in each station around the facility.
- Allowed nurses and doctors to work smoothly by organizing people in sub-groups depending on their vaccination and their situation such as pregnancy and disability.
- Interacted with people to make sure their experience is as pleasant as possible as many people are concerned about the vaccination program and why it is suggested by the NHS.
- Helped nurses dealing with post-vaccination reactions such as sudden fainting.

Erasmus + Craiova, Romania (04/2018)

- Workshops on prospective to live on Mars and introduction to environment changes and space travelling.
- Discussion and creating new connections between people from different countries during workshops.
- Learnt how to interact with people while working in an unfamiliar circumstance abroad.

INTERESTS AND HOBBIES:

- **Entrepreneurship** - Repairing and reselling laptops; starting with broken laptops to try fixing and selling them for a profit, interesting and challenging as I get to study the engineering behind computers and the business side of how to use platforms, marketing to sell a product and sourcing parts.
- **3D Printing** – Using online resources and CAD knowledge, designed and created automation mechanism to improve the house, ie automatic bird feeder, plant feeder, door closer or Arduino controlled Robots.