Abhinandan Thour

PERSONAL INFORMATION:

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WORK EXPERIENCE:

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

- Collaborated with the VPI team to introduce and support projects across 2 production lines, covering engine sizes of 38L, 45L, 50L, 60L, and 78L at various stages of development.
- Acquired practical experience in assembling engine components through hands-on work.
- Presented manufacturing-related content during component design reviews and engine integration meetings to global teams.
- Evaluated the assembly potential of diverse, novel, and distinct components by conducting virtual, physical, and VR fit checks.
- Contributed to the assessment of 3D printer prototypes for determining the feasibility and design suitability of engine parts.
- Produced Process Documentation that documented assembly instructions for both new and existing products, conforming to Cummins Engineering Standards (CES) and plant quality processes.

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

- Utilized research and development expertise to design a novel transmission chain that employs a new method of power transmission via both sides of the sprocket tooth. Developed solutions to decrease chain wear and enhance engagement with the pinion, while maintaining high efficiency.
- Conducted transmission chain testing and analysed data from physical tests and simulations of various mechanism prototypes, including sound tests, wear tests, heat simulations, and force distribution simulations.
- Managed individual project objectives while participating in team meetings and collaborating with colleagues on group assignments.

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

- Utilized CNC machines and CAD software to fulfil customer requirements in accordance with ISO and UNI standards.
- Conducted assembly and disassembly of mechanical parts on industrial CNC machines, including robotic arms, motors, and electronic components.
- Examined the functions of industrial machinery, their individual components, and the underlying principles governing them (e.g., lubrication, electric circuits, PLC and various materials).

EDUCATION:

Mechanical Engineering / Aerospace Engineering MEng
University of Southampton Southampton, UK (09/2020 – 09/2024)

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

Dissertation: Solid Lubrification in Space (Nitrogen dopped MoS_2).

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 (09/2019 - 06/2020)

Key modules:
Introduction to Design; Engineering Application of Mathematics; Fluid Mechanics & Thermodynamics; Materials and Electrical Science; Mechanical Science.

PERSONAL SKILLS:

Languages:

Italian, English (IELTS), Hindi, Punjabi

Technical skills:

- **CAD –** Started during my first year in Secondary School with AutoCAD, learned how to read technical drawings and how to make one at industry standard, followed up with Inventor and SolidWorks during my exchange year in Ireland, modelled and animated simple machines parts and car models. Through university, worked on IMechE projects such as ball launcher and Boeing sponsored project with an autonomous collecting robot.
- **Manufacturing –** Expanded my portfolio of machines and processes used to manufacture parts. Began from bending and drilling machine to work autonomously on the lathe, milling machine, both manual and CNC (coded with Fanuc), welding and 3D printing (Shielded metal arc) throughout manufacturing projects such as machine parts and go-kart models.
- **PLC (Programmable Logic Controllers) –** Programmed PLC computers through block diagrams which were then uploaded in the machine and used to send signals to pneumatic pistons in a specific order and speed.

Soft Skill

- **Interpersonal** – Have lived in four different countries with totally different cultures, being adaptive and being able to communicate effectively, helped me establish connections with people. The same skill allowed me to succeed with customer service while working in a fast-food restaurant, volunteering and work experiences
- **Time management** - Fundamental while playing in chess tournaments. Key skill while working in a start-up with strict deadlines as well as well as during my placement at Cummins to manufacture engine before specific deadlines

EXTRACURRICULAR ACTIVITIES

Covid-19 Volunteer Slough, UK (From 06/2021)

- 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:

- **Front End Developer** – Took part of an intensive 16-week program that provided me with a solid foundation in HTML, CSS, and JS, and then took me further to explore more advanced topics like testing with Jest and building web apps using React and NodeJS.
- **Entrepreneurship** - Repairing and reselling laptops; started with broken laptops trying to fix them and sell them for a profit, interesting and challenging as I get to study how they work before trying to fix them.
- **3D Printing** - Designed and printed prototypes of Arduino controllers using 3D printing technology, including a Mars rover controlled by a smartphone, to explore the possibilities of combining electronics and 3D printing for innovative projects.