

Abbas Moosajee

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[github](#) | [linkedin](#) | [website](#)

ABOUT ME

As a curious and driven Chemical Engineering graduate, I am excited about the opportunity to bring fresh ideas and energy to your team. I thrive in fast-paced, problem-solving environments and love diving into challenges—especially those that push me to think creatively and sustainably. My hands-on experience with projects, both academic and personal, has taught me how to stay focused under pressure and deliver real results. I am constantly learning and experimenting—currently through online courses and coding projects, many of which I share on my GitHub. I am ready to roll up my sleeves, collaborate with others, and make a meaningful impact wherever I can.

EDUCATION

Bachelor of Engineering - Chemical (Graduated 2:1)

Sep 2021 - Jul 2024

University of Birmingham

Birmingham, UK

- Design Project: Plastic Recycling via Plasma Gasification

EXPERIENCES

Ceylon Chocolates Ltd

Jul 2023 - Sep 2023

Student Intern

Birmingham, UK

- Analyzed Komori-E29 industrial printer records in R to identify trends and extraneous variables. • Found that "Time of Day" metering significantly impacts electricity costs.
- Determined that operating during off-peak hours could outweigh overtime labor costs.
- Created a report with findings and recommendations to improve efficiency and reduce costs.

University of Birmingham

Aug 2022 - Jul 2024

Engineering and Physical Sciences Student Ambassador

Birmingham, UK

- Engaged with prospective applicants and guardians about the course and University.
- Assisted with open days, provided school/lab tours, and offered guidance.
- Delivered presentations to 50+ offer holders on student life, using personal experiences.
- Created content for social media (Facebook, Twitter, Instagram) and responded to inquiries.

John Keels IT

July 2018 - Aug 2018

Student Intern

Colombo, Sri Lanka

- Supported the implementation of warehouse management software for a perishable goods warehouse serving 150 supermarkets.
- Created a report highlighting potential failure points based on feedback from warehouse staff.

PROJECTS

Coding Challenges

Ongoing

Programmer

Online: [Repository](#)

- Active participant in global programming challenges including *Advent of Code*, *Project Euler*, *EverybodyCodes*, and *CodeGolf*.
- Completed all ten years of Advent of Code (2015–2024), earning all 500 stars — showcasing consistency, problem-solving under time constraints, and cross-topic algorithm mastery.
- Applied a wide range of algorithms including BFS, DFS, Dijkstra's, A* Search, Union-Find, dynamic programming, and memoization in Python, Ruby, and C.
- Designed and maintained a personal challenge repository with modular, reusable templates and benchmarking utilities to track and optimize solution performance.
- Used algorithmic challenges as a platform to explore advanced topics such as 4D space traversal, graph theory, data structure implementation, and computational geometry.

Final Year Design Project

Oct 2023 - Apr 2024

Team Member

Birmingham, UK

- Co-designed a plastic recycling plant to convert 30,000 tonnes of plastic per year into green hydrogen.
- Specialized in the detailed process and mechanical design of the Plasma gasifier.
- Conducted a HAZOP study to identify risks and recommend process control measures.

Microsoft EDI Business Challenge

Nov 2022 - Mar 2022

Team Member

London, UK

- Participated in a competition organised by Microsoft, focused on using technology to solve daily problems
- In Round 1, we proposed an app, Savvo, that creates a crowd-sourced database of household goods and their prices in different store, to help consumers find the best deals in local communities
- In Round 2, we aimed to integrate AI into TESCO's assistant to use consumer's purchase history to predict their future grocery lists
- Finally, we created a platform that highlights the success stories of women in STEM, and a pathway for future leaders

The Birmingham Project

June 2022 - June 2022

Team Member

Birmingham, UK

- Developed a VR archive business model for global events and stories, in partnership with IBM, aimed at affordable access for museums and schools.
- Surveyed 200+ people and interviewed museum directors to refine the product.
- Presented the product to VR industry leaders and addressed questions on implementation.

Product Design Exercise

Feb 2023 - May 2023

Team Leader

Birmingham, UK

- Developed a healthier chocolate spread that reduced calories by 25% and saturated fats by 84%, in a unique almond flavoured spread.
- Conducted a financial analysis of the company, based on the larger market and predicted an annual profit of £6.5 million with a production capacity of 14 million jars
- Pitched our potential company to a roomful of investors, highlighting our product, marketing strategy and financial projections

Projectile Motion and Velocimetry

Feb 2022 - May 2022

Developer

Birmingham, UK

- Developed an application on *MATLAB* utilizing numerical solvers to predict the motion of a projectile and how its effected by variables such as collision and air resistance
- Implemented *Python's OpenCV* library to track a ball by isolating its colour, to extract an object's coefficient of restitution and then graphically comparing its path with the model predicted by the Euler's model
- Designed a 2 factorial experiment studying the effect of multiple balls and surfaces to calibrate a model with a standard deviation of 10-15%
- Conducted a literature review of the numerical solvers used and the potential industrial applications of the model

The Amazing Spaghetti Machine Competition

Oct 2018 - Dec 2018

Team Lead

Colombo, Sri Lanka

- Led a team of 3 to design and build a Rube Goldberg Machine from household items for a University of Melbourne competition.
- Created an *AUTOCAD* model to optimize component configurations and enable quick redesigns.
- Documented the 3-month construction and final run for a submission video. ([link](#))
- The machine deployed 10 steps consecutively lasting a total of 75 seconds to complete the task of squeezing tooth-paste onto a toothbrush

SKILLS AND INTERESTS

Technical Skills	Python MATLAB Simulink AVEVA ProII Simulation COMSOL Multiphysics AUTOCAD LaTeX Fusion360
Soft Skills	Communication Leadership Self-Motivated Team Work Problem-Solving
Languages	English(IGCSE-A) Urdu(fluent) Sinhala(native)
Interests	Reading Non-fiction Watching Cricket and Tennis Research Green Energy