Raman Chahal

Aspiring research scientist with practical laboratory, data analysis, computer, and science skills. Seeking an opportunity to apply my passion and knowledge for science, developing innovative products and processes.

Nationality: British Citizen
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Projects: https://raman-chahal.netlify.app/

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EDUCATION

MSc Bioinformatics -Distinction - Newcastle University, UK

2019-2020

- **Core modules:** High-throughput technologies, bioinformatics theory and practice, modelling cellular systems, programming for biologists, statistics and mathematics.
- **Final Research Project:** Machine learning approaches for biomarker identification in hip and knee osteoarthritis.

Key Achievement: My master's dissertation was an international project that required collaboration with University Medical Centre Utrecht. I successfully created predictive machine learning models for biomarkers in osteoarthritis patients. This required me to teach myself both programming and fundamentals of machine learning and how this could be applied in a clinical setting. Overall, this project scored 73% and contributed to securing a Distinction overall for my degree.

BSc Biochemistry -2:2 (Honors) - Newcastle University, UK

2016-2019

- **Core modules:** Applied biochemistry, bioinformatics, biochemistry of gene expression, cancer and chronic disease, (DNA replication, recombination and repair), (proteins, enzymes and analysis).
- **Final Research Project:** Modelling the impact of pH variations on trypsin in cystic fibrosis.
- The course enforced self-directed learning to improve knowledge in the field of biomedical sciences, while also teaching industry-standard analytical techniques, which can be used in drug design and synthesis.

Key Achievement: My degree provided a wealth of theoretical knowledge in several interdisciplinary subjects related to biochemistry and life sciences, as well as practical laboratory skills. The course taught me to maintain strong self-motivation and independence throughout. I learnt the importance of working to the highest possible quality and safety standards, and the discipline to design and perform experiments carefully and accurately.

LAB SKILLS

- Enzyme and Protein Assays
- Gel electrophoresis
- Autoclaving
- Pipetting and weighing
- Measuring pH
- Equipment Safety & PPE

IT SKILLS

- Data Analytics
- Data Visualisation
- Computational Modelling
- Machine Learning
- Python, RStudio
- Linux, HTML/CSS

PROJECTS

- Machine Learning method for biomarker identification
- Uniprot Protein Alignment tool
- Genome assembly/expression analysis of Chlamydia trachomatis
- Computational model of riboflavin biosynthesis in B.Subtilis
- Exploration of FLP-27
- Various TensorFlow projects
- Simple GC Content calculator
- PDF to audiobook converter

WORK EXPERIENCE

Lab Assistant - Newcastle University, UK

2016-2018

- **Roles and Responsibilities:** Worked as an Lab assistant working with B.Subtilis, routinely performing pipetting, gel electrophoresis, and autoclaving.

Key Achievement: To help further develop my skills outside my undergraduate course, I worked as a part-time lab assistant for Newcastle University. As a result, I became highly proficient in the handling of several pieces of high-end lab equipment, including autoclaving units, gel-electrophoresis stations.

Office Assistant - Linthorpe Surgery, Middlesbrough, UK

2016-2018

- **Roles and Responsibilities:** Tasked with updating and maintaining patient records for NHS England.

Key Achievement: I gained experience developing simple python and AHK scripts to help streamline staff workflow at a busy GP surgery. During my time with Linthorpe Surgery, I was frequently tasked with manually updating patient records within the NHS database. The existing method was slow and prone to inaccuracy, caused by human error. To streamline the workflow, I made a simple python script. The script worked by parsing through the excel datasheet, with new patient mobile numbers and email addresses, and updating them if they had changed. To avoid computational errors, I manually checked the updated datasheet to ensure the quality of the solution I developed. Overall, this achieved significant time-saving and improved staff productivity for the GP Surgery.

First Aider - St John's Ambulance, Middlesbrough, UK

2013-2016

- **Roles and Responsibilities:** Trained and volunteered as a first aider for St John's Ambulance in the Middlesbrough area.

Volunteering as a first aider greatly improved my communication skills with my peers, my supervisors and the public alike. It helped me build a professional and proficient manner which was essential for this important role.

REFERENCES AVAILABLE UPON REQUEST

HOBBIES & INTERESTS

Guitar

I have been playing both classical and electric guitar since I was 12. Heavily inspired by the likes of Jimi Hendrix and Led Zeppelin, I aim to have my own YouTube channel running by the end of the year – hosting accurate note-by-note covers of my favorite songs.

Woodworking

One of my favorite subjects when at school was Resistant Materials. Here I was taught how to operate high-grade machining equipment, such as band saws, milling and CNC machines, and lathes. This ultimately allowed me to build my own wooden guitar stand modelled after a human spinal column. Each time I use the stand I am reminded that hard-work and perseverance pays off.

Weightlifting

Over lockdown I have used my DIY and woodworking skills to build a small home gym. Here I can continue progressing on my lifts with the commercial gyms being shut.