

# Gregory Greenfield, BEng, IEng

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## TECHNICAL SKILLS

**Languages:** C, C#, PowerShell, L<sup>A</sup>T<sub>E</sub>X

**Tools/Framework:** Visual Studio (.NET, Python), Selenium Webdriver

**Familiar:** Java, Python, Matlab, SQL/Access

**General:** Windows Forms (Visual Studio), Procedural Programming, Scripting, Robot Process Automation, Microcontroller Programming

## EXPERIENCE

**The Christie: Electronics Service Engineer**, Manchester, UK Dec 2017 - May 2021

- Responsible for the maintenance and upkeep of Elekta linear accelerators, Siemens and Philips CT scanners and Philips MR scanners. This involves high power radiofrequency microwave and x-ray generation, high vacuum systems, motor speed control, electronic position sensing and control, data acquisition, display and analysis, advanced digital imaging, cooling systems, gas systems, laser alignment, IT networking and mechanical engineering, multi-disciplinary co-ordination.
- Responsible for the preventative maintenance (1st and 2nd line) of ten Elekta LINACs. This involves planning and leading team services.
- Responsible for leading the corrective and preventative maintenance (1st line) of five CT (both Siemens and Philips) and MRI radiotherapy simulators. Responding to faults in said systems.
- Introduced data collection and analysis into department's approach to problem solving.
- Working with HT, heavy machinery, IT networks and servers (DICOM) and RV systems (Mosaicq).
- Providing quality assurance and control of Elekta LINACs, Philips Brilliance CT scanners, Philips Ingenia MR scanner, Siemens Confidence and Definition CT scanners to IPEM Report 91.
- Training staff on the operational principles, QC procedures and maintenance of radiotherapy systems.
- Writing risk assessments, training assessments and high level system documentation.

**Huawei: Summer Intern**, Beijing and Shenzhen, China

Aug 2016

I spent four weeks in China learning conversational Mandarin, studying Huawei's telecomms solutions and products, and networking and visiting local companies.

**Arup: Summer Intern**, Manchester, UK

Jun-Jul 2016

I was working on Copperas Hill, a large building being renovated for Liverpool John Moors University. I carried out lighting calculations using DIALux, created diagrams of lighting levels for each room, participated in many inter and intra-company coordination meetings, queried sales representatives on products and updated electrical design changes on Revit and Amtech's ProDesign.

**Sabbatical: Eurasian overland bicycle tour**, Eurasia

May 2021 - Oct 2022

I cycled overland from Leicester, England to New Delhi, India through Europe, Turkey, the Caucasus, Iran, Pakistan and India, raising money for Sickle Cell Society.

## EDUCATION

**The University of Manchester**, Manchester (UK)

Jun 2017

*Bachelors of Engineering (Honours)*, Electrical and Electronic Engineering Lower 2nd class (59%)

**Institute of Physics and Engineering in Medicine**, Manchester (UK)

Dec 2020

*Diploma (level 6)*, Clinical Technology - Radiation Engineering Discipline

Merit

**Guthlaxton College**, Leicester (UK)

Jun 2014

*A Levels*,

Mathematics with Mechanics:

A

Physics:

B

Systems and Control Technology:

B

Music:

B

## PROJECTS

### Calibration Sweeper

The Christie

A Selenium driven Python based script that sweeps the 10 linear accelerator websites for their most up-to-date calibration files. It then homogenises the file structures and adds them to a database for analysis.

Technology/Skills: *Python, Selenium Webdriver, PowerShell, Data Analysis*

### Upgrade Database System

The Christie

Upgraded the database from Microsoft Access to e-Quip professional medical device asset management software. Despite entering vast and varied data into Access, the department did not collate nor analyse the data. I was tasked with transferring the entire database (stock control, myriad QC measurements, staff competency records, system up-time) to e-Quip. I looked into collation of data sets into one uniform, query-able and analysable system of information, revolutionising the way we work.

Technology/Skills: *Data analysis, Management Skills and Strategy, Automation*

### Are LINACs In Use? Form

The Christie

Prior to this project, it would take 2 minutes to go through each LINAC to see if the software to receive logs is running. This form is a clear and immediate visual indication of whether the logs are running on all 10 LINACs. It also informs the department if any of the LINACs are not being used.

Technology/Skills: *Windows Forms (Visual Studio), C#*

### Medical Device Automated Backups

The Christie

I set-up an automatic daily backup procedure for patient data and machine calibration files to network attached storage devices.

Technology/Skills: *Scripting, Backups, GDPR Regulations, IT, Security*

### CT Training Course

The Christie

I created an in house training package for Siemens CT scanners, facilitating trainees to be able to respond to 1st line faults. This involved selecting and delivering training on vital system diagrams, radiation safety, and appropriate escalation to manufacturers.

Technology/Skills: *PowerPoint Presentation, L<sup>A</sup>T<sub>E</sub>X typesetting, Teaching, Assessing*

### Zither Instrument

University of Manchester

I designed, programmed and fabricated an automatic electro-mechanical string tuner using a microcontroller.

Technology/Skills: *PIC Microcontroller, C, PCB Design*

## CERTIFICATION

Elekta Oncology Engineer 1 & 2, Elekta  
Siemens CT Scanners 1st Line Engineer, Siemens

## INTERESTS

Playing the drums (Grade 8 distinction, 2010) and piano, chess, bicycle touring and reading.

## CITIZENSHIP

British and Spanish (EU) citizen.