Samuel Karet

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About

Since graduating in 2021 from Imperial College London with a Master's in Biomedical Engineering I have worked in pre-clinical research for medical devices. I'm a self-motivated, logical and analytical problem solver with wide-ranging interests; and a passion for developing new skills and learning about new technologies.

Employment History

The Griffin Institute **December 2021 - Present**
Research Assistant/Study Director *London, UK*

- Responsible for the day-to-day running of the Clinical Pathology Laboratory.
- Wrote and reviewed SOPs in compliance with GLP.
- Liaised with clients, wrote study plans and reports, and ensured the smooth completion of studies as a study director.
- Acquired, organised, and maintained equipment and supplies necessary for studies.
- Developed and performed Computer Systems Validation procedures for equipment to be used within GLP studies.

Cytera CellWorks **August 2020 – November 2020**
Assembly Engineer *London, UK*

- Assembled consumable products for clients, and prepared components for non-consumable devices.
- Designed and assembled specialised consumables for internal use.
- Amended existing documentation and produced new documentation for consumable products.

MahiGaming **September 2019**
2-week Internship *Florida, USA*

Took the opportunity to spend 2 weeks in Florida at MahiGaming, an agile and dynamic development house that creates software for slot machine style gaming products, and gained an understanding of how games are designed and created in an Agile framework.

- Updated risk mitigation plan documentation and worked on a system to integrate the risk mitigation documentation into task tracking software (Jira). Required learning some database theory and SQL.
- Shadowed leader of the Marketing Readiness and Logistics team in inter-disciplinary team meetings and learnt about the design process of video games.

Imperial College Advanced Hackspace **June 2019 – September 2019**
Hackspace Helper *London, UK*

- Built, fixed, upgraded, and maintained a variety of 3D printers.
- Taught inexperienced members how to use equipment.
- Prepared circuitry and electronic component kits for outreach programs.
- Provided general help and support to the hackspace's members.

Education

Imperial College London **Sep. 2017 – June 2021**
MEng Biomedical Engineering (2:1)

- Final Year Project – Volumetric Infrared Imaging System (**VIRIS**) for the monitoring and diagnosis of breast-cancer related lymphoedema. Designed, built, and tested device prototypes as well as produced an app to ease user interaction (coded in MATLAB). Also organised and implemented a study of the device's efficacy on human subjects.
- 3rd Year Project – Produced a library of synthetic biological toggle switches using a variety of in silico and in vivo synthetic biology methods and techniques.

- 2nd Year Project – Functional electrical stimulation bike pedal designed and built using CAD, programmed with Python to give real-time performance feedback for use by a paraplegic athlete in the cybathlon.
- Key Modules – Biomechanics, Medical Imaging, Biomimetics, Hearing and Speech Processing, Human Neuromechanical Control and Learning, Programming, Electromagnetics, Signals and Control , Medical Device Entrepreneurship.

Yavneh College **2015/2017**

A Levels (June 2017): Maths(A), Physics(A), Further Maths(A) *Borehamwood, UK*

GCSEs (June 2015): 10 GCSEs grade A-C with 5A, 3A, 1B, 1C*

Technical Skills

Programming Languages: Python, C++, MATLAB, LaTeX
Hardware: 3D Printers (Prusa, Monoprice, Ender, Creality, Ultimaker, Markforged), Soldering, TIG Welding, Prototyping (breadboard/veroboard), Arduino, ARM Mbed

Other Projects and Interests

Bnei Akiva Youth Organisation | *Camp Technical Organiser (Voluntary)* **July 2016 – August 2021**

Held role of Technical Organiser on 6 summer and winter camps, with responsibilities involving:

- Managing and training a team of between 5 and 15 people to cater and provide food for circa 100-300 children, 3 meals a day for 2-3 weeks.
- Ensuring equipment and necessities are in the correct location and in working order at the correct times, often delegating tasks and using forms/spreadsheets to manage a limited amount of equipment shared between multiple camps running simultaneously.
- Ensuring risk assessments and fire safety measures are adhered to and taking damage assessments of the site at the start/end of the camp.
- Organising and running a tuck shop, for which I wrote an executable program in python using PyQt and JSON, which is available on my GitHub linked above.
- Liaising between site staff and youth organisation volunteers and participants to facilitate solving of issues and arrangement of activities.
- The role involved being *in loco parentis* and as such I was DBS checked and trained in safeguarding responsibilities.

Robotics Society | *Publicity Officer, Robotics 101 Tutor*

- I was an avid member of the Imperial College Robotics Society for 4 years and served as publicity officer for the society for 2 years, taking part in competitions and events, as well as promoting them and maintaining the society's social media presence.
- I acted as one of the tutors for the society's Robotics 101 classes, a course of 5 sessions, each 2-hours long, in which we walked participants through the basics of robotics, culminating in them building a robot which used ultrasound sensors and a basic algorithm to traverse a maze of old PC cases. Concepts taught to participants of the course include breadboarding, h-bridges, microcontrollers, and pwm power supply. Different iterations of the 101 course have used raspberry pi zeros or ARM Mbed NUCLEO as the microcontroller for the robots.
- Worked in a team to build an autonomous robotic tank for the PiWars competition run by the raspberry pi foundation, and in another team to produce an arm wrestling arcade game for the Imperial College Advanced Hackspace's Level Up competition.

Jewish Society | *President* **2018/2019**

- Organised and led committee meetings and AGM.
- Planned, coordinated, and spoke at society events, liaising with sponsors and guest speakers.