

# Harry Rogers

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**GitHub:** <https://github.com/Harry-Rogers>

A BSc Computer Science graduate from the University of Lincoln. An excellent understanding of problem solving and programming in multiple programming languages developed through university modules. A passionate learner of computer science and an efficient team player who can also work independently to deadlines demonstrated by modules such as problem solving and Artificial Intelligence. Wanting to work consistently on robotics engineering for companies that deliver systems that anyone can operate on any scale.

## Education

University of Lincoln – Lincoln, UK

### **Computer Science – BSc – 2017-2020, 2:1**

- Relevant Modules include:
  - Problem Solving –1<sup>st</sup>
    - Problem-solving was completed as part of a group to create a presentation to then present to others.
  - Programming and Data Structures –1<sup>st</sup>
    - Programming and Data Structures was completed by programming with C# working alone to deadlines.
  - Artificial Intelligence –1<sup>st</sup>
    - Artificial Intelligence was a module that taught me about Neural Networks and other parts of AI.
  - Object-Orientated Programming –1<sup>st</sup>
    - Object-Orientated Programming was completed by using C++ to create more complex code.
  - Maths for computing –1<sup>st</sup>
    - Maths for computing tested the understanding of Linear Algebra, Set Theory, Logic, Basic Statistics and Calculus
  - Machine Learning – 2:1
    - Machine Learning implemented learning into creating algorithms such as; neural networks, k-means clustering, random forest classifier and polynomial regression.
  - Image Processing – 2:1
    - Image processing completed using MATLAB, taught usage of Sobel and canny edge detection with image segmentation in several images with varying difficulty.
  - Autonomous Mobile Robotics – 2:1
    - Autonomous Mobile Robotics involved programming a Turtlebot to escape a maze using ROS.

University Technical College Norfolk – Norwich, UK

- A-levels: C in Maths, D in Computer Science
- BTEC: Distinction\* in Engineering
- Extended Project Qualification: A, I created a website for this project

Ormiston Victory Academy – Norwich, UK

- 12 GCSE's A-C (Including English, Maths and Science)

### Technical Skills

- Proficient in C#, C++ and Python through understanding in university modules
- HTML and CSS from studying in my EPQ
- Experience in hardware, building my own PC and Robotics dissertation
- Creative, building a website based around fitness
- Project Management, through my robotics dissertation

### Dissertation

Titled Low Cost Swarm-able Seeding Agri-Robot: Mechatronics and Geospatial Navigation

I created an Agricultural robot that plants seeds and takes the GPS coordinates of the planted seeds location.

With the recorded data this was filtered and recorded into a database.

The robot can be manually driven or can complete autonomous driving when given a start and end point using a Dubins Path.

Using a modified Dubins Path the system can speed up when driving straight and slow down when turning.

This involved building the robot using a COTS RC car kit, COTS seeder and Raspberry Pi.

The system utilises a desktop application as well as a hosted website using the Django framework with Python.

The desktop application was designed using PyQt5 and website application uses HTML, CSS and Javascript.

I published this as a conference paper in UKRAS20 with Dr Charles Fox

## Previous Work Experience

Virgin Active/ David Lloyd – Norwich, UK

### **Lifeguard – 2015-2017**

- Worked as a lifeguard as part of a team in high risk situations.
- Handled complaints from members with problem solving skills.

NHS Health Records Library – Norwich, UK

### **Record Clerk – May-August 2018**

- Worked as a record clerk collecting and sorting files for patients.
- Followed procedures to find files that were missing or used problem solving skills.

Norwich City Football Club – Norwich, UK

### **Program Distributor/ Kiosk – 2012-2019**

- Worked as a Programme Distributor on match days.
- Worked in a Kiosk serving fans and dealing with complaints using customer service skills.

Lotus Cars Limited – Norwich, UK

### **Lotus Work Experience – June 2014 and June 2016**

- Worked in all parts of manufacturing and engineering as work experience.

## Extra-Curricular

### **Sports**

- Played rugby for University of Lincoln, Wymondham Rugby Club and for Norwich Rugby Club.
- Enjoy Gym and swimming for leisure and fitness.

### **Awards**

- The institute of Qualified Lifeguards First Aid Qualification.
- Level 3 Award in First Aid at work.
- RLSS UK National Lifeguard Qualification/ EFAW / FAW.
- Highfield Lifeguard Qualification.
- Bronze, Silver and Gold Medallion in Lifesaving.

References available on request.