Helen Christine Harman

183A Raeburn Avenue, Eastham, Wirral, Merseyside, CH62 8BH

+44 7476878121; me@helenharman.me; helenharman.me

Profile

In July I will be graduating with a M.Eng. in Software Engineering from Aberystwyth University.

Key Achievements and Skills

- My dissertation, entitled "Artificial Immune System (AIS) for Detecting and Tracking objects in Real-Time", allow me to gain experience of working on an **individual research project**. Through this I gained knowledge of vision and AI concepts. I am currently expanding this in order to produce a scientific paper.

- While at **CERN** I worked on the testing and quality assurance of control system software. This involved running nightly graphical user interface tests; developing an automated static code analysis tool and a unit testing framework. I developed these using Python, JAVA and proprietary programming language called CTRL.

- I have exceptional organisational and leadership skills gained through starting up and running the Aberystwyth University **BCS Student Chapter** and **Computer Science Society**. I am also a member of the BCS Mid-Wales committee. Through these I organise events and encourage other students to get involved in computer science outside of their course.

- I have experience in a **wide range of programming languages** and development techniques. This includes knowledge of Java, C++, C, Python, Scala, ASP.NET, PHP, Ruby on Rails, Perl, Haskell and Delphi Pascal. I commonly use **development tools**, for example Git, SVN, Jira, Hudson and ConQAT.

- I work well as part of a **team** and have shown this by being part of the **robotics society** and working alongside other students to come up with new ideas. In first year a team of us won £100 Amazon voucher through getting a Roomba and quadrocopter to be controlled through different devices including an Android phone.

- During college I was the student council president and a governor. I helped to organise charity events, listened to what different students wanted and communicated these to the appropriate staff. This helped to develop my organisational skills and my communication skills. I also received the **Outstanding Contribution to the College/Community Award 2011**.

- I have excellent verbal **communications skills** gain through giving presentations, **group projects** and working as a demonstrator. As well as giving presentations as part of my course, I have presented at and hosted BCS Show & Tell events.

- I gained knowledge of programming in C during a **C and UNIX** programming module, in which I achieved 96%. I have further developed my skills through C, C++ and Java Programming Paradigms module. I built on my knowledge of Java and C by being a demonstrator for these modules.

- I have developed my knowledge of data storage and querying in a **Modelling Persistent Data** module, in which I achieved 98%. I was able to use this knowledge in my work at CERN, as I used SQL, XML and XSL. I then built on this knowledge by creating an APEX application.

Education

(2011 - 2016) Aberystwyth University:

M.Eng. Software Engineering : On track for a 1st.
Relevant modules : Space robotics 77%, Computer vision 75%

(2009 - 2011) Birkenhead 6th form College:

> A-Levels : Double Award ICT: BB, Computing: B, AS-Levels: Physics: D

(2004 - 2009) South Wirral High School:

> GCSE: 10(A-C). Mathematics : A, Science: AB, Double Award ICT: Distinction
> Free Standing Mathematical Qualification (FSMQ): Additional Mathematics: D(worth 10 UCAS points)

Employment

(09/2014 - present) and (10/2012 - 06/2013) Aberystwyth University :
Advisor, Demonstrator and Ambassador (Part-time)

During advisory students may ask me any technical questions they have in relation to their course. During demonstrating it is my responsibility to check through and sign-off worksheets students complete. I have to think quickly when solving their coding problems; and be able to explain different aspects of software development at the correct level of understanding. I have demonstrated in the following areas : Arduino, Robotics, C, Haskell and Java. As an ambassador I show prospective students around and tell them about the University. During this I must communicate the relevant information to parents and students.

(07/2015 - 09/2015) Johannes Gutenberg University Mainz :
Summer Intern

I created a Java interface for Scavenger : a tool for computing sub-algorithms in parallel and sharing the results with dependent sub-algorithms. I built a package for Weka that allows Weka's cross fold validation to make use of Scavenger. I also wrote a generic hierarchical clustering algorithm to show the befits of using Scavenger.

(07/2013 - 06/2014) CERN :
Technical Student

I worked in the EN-ICE-SCD section, which provides control system software and support to different experiments. This software makes use of WinCC-OA. I ran nightly graphical user interface tests; develop an automated static code analysis tool and a unit testing framework.

04/2009 - 09/2011) Village Newsagent and Off Licence :
Shop Assistant (part time)

Within this job I handled money, served customers, helped sort the newspaper deliveries and printed lottery tickets. I handled customer telephone enquiries and I helped to organise the newspaper returns. Through this job I gained skills of communicating to many different people and gain confidence in doing this.

Interests

During my first year at University I was involved in setting up a robotics society. We worked on creating an autonomous sailing boat and turning remote controlled car into one controlled by different devices. Last year I set up the Aberystwyth BCS Student chapter and Computer Science Society.

I enjoy going on short hikes. I have recently visited Oberstdorf, the Matterhorn and the Swiss Alps. While living in France I often went on bike rides and walks around Mont Jura. While at Aberystwyth I have walked up many of the local hills.

I have an interest in music and while at school I played the violin. I have played, in groups in many different places including Liverpool Philharmonic Hall, Anglican Cathedral in Liverpool and New Brighton's Floral Pavilion. I also performed on music tours in Italy, Austria and Czech Republic.