

Alumni support a wide range of novel applications of Computer Science

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<http://www.birmingham.ac.uk/alumni/giving/index.aspx>

The School of Computer Science is always striving to solve real-world problems. Thanks to alumni generosity, this summer we've been able to host a number of undergraduate interns to tackle two extremely different, but challenging, tasks.

Engaging Girls in Computer Science

The first of these is to develop materials for a workshop which we can use to help engage school girls in Computer Science (CS). Women are significantly underrepresented at all levels of CS education and careers, and this can only be

addressed by coordinated action at all levels. In line with national efforts such as the [Computing at Schools include programme \(http://casinclud.org.uk\)](http://casinclud.org.uk), we are using alumni funding to develop an event which we can run either on campus or in schools in order to give school children (with an initial focus on girls) an exciting first experience of CS. We plan to base this around the guided development of an augmented reality application for a mobile device, using an existing toolkit such as [MIT's App Inventor \(http://appinventor.mit.edu\)](http://appinventor.mit.edu). The choice of application was made to both highlight the techniques that go in to the development of apps (which many of us now use every day), but to also show how technology can connect with the world around us. Once developed we plan to take the workshop into some of Birmingham's schools for girls and evaluate its effects. We will also be looking for further support or sponsorship to provide infrastructure (phones and laptops) to enable us to reach wider audience.

A Drink Serving Robot

In 2014 the University of Birmingham will host the British Science Festival. At the [2013 event in Newcastle \(http://www.britishsociety.org/british-science-festival\)](http://www.britishsociety.org/british-science-festival) we will host a party to celebrate the handover to Birmingham. As the University is keen to use this event to showcase the kinds of cutting-edge science we do, the School of Computer Science was asked to bring one of our mobile robots along to help serve drinks. Thanks to alumni support we have been able to employ a undergraduate student over the summer to take cutting edge robot control software and use this to develop an artificially intelligent robot able to be called (via a web app) to bring a drink from a bar. The major challenge in this task is enable the robot to move through crowds as such navigation behaviours typically use sensors which can be confused by the presence of lots of moving people. Such confusion causes the robot just to sit still, which is not a desirable behaviour when you're thirsty. However, safety is priority in such crowded situations, so striking the right balance between providing a drink quickly whilst not running over toes is the main task the student faces. Once perfected we hope to be able to use this system at a range of University functions, from Open Days to balls.

To find out more about how you could transform the work we do in Computer Science, please visit our [giving pages \(http://alumni/giving/index.aspx\)](http://alumni/giving/index.aspx).

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