

# Joseph Hallett

Basement Flat  
6 Buckingham Place  
Clifton, Bristol, BS8 1LH

TELEPHONE: 07986 647065  
EMAIL: josephhallett@gmail.com  
GITHUB: github.com/bogwonch

*I am a PhD student at the University of Edinburgh researching how we can use a logic of authorization to improve the security in mobile ecosystems. My research looks at how we can write policies, for the devices and stores, that let us automate or guide the decisions making process surrounding them; and model existing informal policies. I have experience working as a Linux security engineer for the digital television markets where I helped write the Linux and Android specifications for conditional access vendors. My passion is for cutting edge security research and helping users and developers understand the issues and limitations of the security of their devices. Through my teaching I have helped show others just how cool security research is.*

## EDUCATION

- 2013 Currently studying for PhD at Edinburgh University School of Informatics  
Expected 2017.  
Evaluating authorization logic for mobile ecosystems.  
Working in the *AppGarden* project.  
Supervised by Dr. David Aspinall
- 2012 MEng Computer Science at Bristol University (second class honors first division)  
Specialised in cryptography and security.  
Won the Infineon Prize for best final year project in Computer Architecture.  
Wrote thesis on a steganographic method to create architecture independent byte-code. Looked at the techniques to find valid instructions on multiple architectures, assessed their steganographic properties, and showed how a distinguisher could be written for programs using them.

## EXPERIENCE

- 2014 Teaching Assistant at Edinburgh University  
Developed labs for new *Secure Programming* course.
- 2012–2013 Security Engineer at MathEmbedded  
Developed Linux and Android security specifications for conditional access vendors.  
Worked to create a dynamic analysis tool for assessing a systems conformance to the security specifications. Involved writing a kernel module and rootkit to hook into the system under test, and SQL database to implement the tests  
Updating a set-top box system to a more modern kernel. Rewrote BSP to support new kernel; integrated Grsecurity patch set to harden system; helped port their main application from a chroot into an LXC container.
- 2009–2012 Unit Assistant at Bristol University  
Worked for the *Procedural Programming* and *Principles of Programming* units.
- 2008 Software Engineering intern at GE Oil and Gas  
Year in industry  
Worked on testing sub-sea software, development of coding standards for C++ & Visual Basic inside GE Oil and Gas as well as the development of automatic testing equipment for watchdog PLCs. Witnessed the testing of several hardware and software projects.  
I was awarded a 2:1 for my year of work and report on the design and implementation of automatic test equipment.
- 2007 Software Engineering intern at Renishaw  
Summer Placement Worked on soldering and testing PCBs as well as modelling the effects of temperature on equipment.

## TECHNICAL SKILLS

EXPERIENCE WITH: Linux kernel development, Android Development, Linux system development, Grsecurity, OpenCL, OpenMP, MPI, Git, Radare2  
PROGRAMMING LANGUAGES: C, C++, Assembly languages, Python, Ruby, SQL, Haskell, Java, Prolog, Datalog, Lisp, R and  $\text{\LaTeX}$