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Joseph Hallett

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I am a recently graduate of Bristol University specializing in computer security. I currently work for an Embedded Linux consultancy as a security engineer. I work with conditional access vendors to develop their Linux and Android security specifications and develop in kernel dynamic analysis tools. I enjoy solving tricky problems with code and in university I helped teach problem solving skills to others. I want to continue to develop my understanding of computer and information security, developing tools and research in industry and academia and to show others just how fascinating security research is.

EDUCATION

- 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 bytecode. 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

- 2012–present 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.

Responsible for weekly lab sessions assisting first year students in completing coursework, overseeing tests, and giving a viva for the final assessment.

- 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, Linux system development, Grsecurity patches, OpenCL, OpenMP, MPI, Git, Radare2
PROGRAMMING LANGUAGES:	C, C++, Assembly languages, Shell-scripting, Python, Ruby, Matlab, SQL (Oracle and MySQL), Haskell, Java, Prolog, Common Lisp, R and \LaTeX

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