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

2017 PhD at Edinburgh University School of Informatics

Describing and enforcing policies in mobile ecosystems.

Implemented *AppPAL* authorization logic in Java/Haskell.

Supervised by Prof. 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.

Dissertation on a steganographic method to create architecture independent bytecode.

EXPERIENCE

2014 Teaching Assistant at Edinburgh University

Developed new lab for Intel about certificate pinning on Android.

Developed new labs for new *Secure Programming* course. Labs involved teaching students to perform and defend against classic stack overflows, return to libc, linker attacks, injection and web attacks.

TA for *Computer Security*.

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 Teaching Assistant at Bristol University (Procedural Programming and Principles of Programming courses)

2008 Software Engineering intern at GE Oil and Gas

]2007 Summer placement as Software Engineer at Renishaw

PUBLICATIONS

(All publications authored by Joseph Hallett and David Aspinall)

- Capturing]olicies for BYOD. IFIP-Sec (2017)
- *(Short Paper)* Common Concerns in BYOD Policies. IMPS Workshop (2017)
- *(Presentation)* Specifying BYOD Policies With Authorization Logic. iFM PhD Symposium (2016)
- AppPAL for Android. ESSoS (2016).
- *(Poster)* Using Authorization Logic to Capture User Policies in Mobile Ecosystems. SOUPS (2015)
- Towards an Authorization Framework for App Security Checking. ESSoS Doctoral Symposium (2014).

TECHNICAL SKILLS

Linux Kernel Android Security Policy languages C Java Assembly Python Ruby SQL Haskell Java Prolog Datalog Lisp R LaTeX