

Sam Lloyd Thomas

School of Computer Science
University of Birmingham
Birmingham
B15 2TT
United Kingdom

Email: s@ghost.sh
Website: <http://xorp.se>
GitHub: <https://github.com/xorpse>
Bitbucket: <https://bitbucket.org/xorpse>

Profile

A highly (self-)motivated doctoral researcher in Cyber Security at the University of Birmingham. Experienced in a number of programming paradigms: including functional, object-oriented and logic. In addition, over 7 years of programming experience in C on a number of platforms and architectures (ARM, MIPS, x86/x86-64). Consistently achieving to the highest standard: at least A in all A level subjects and awarded Best Student in Degree Programme in each year of his undergraduate degree.

Education

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| 2014 | University of Birmingham, United Kingdom B.Sc. Computer Science (with honours class I) (88% weighted average) |
| 2011 | King Edward VI College, Stourbridge, United Kingdom A Level Physics (A*) A Level Mathematics (A) A Level Computing (A) |
| 2010 | King Edward VI College, Stourbridge, United Kingdom A Level Film Studies (A) |
| 2009 | Redhill Secondary School, Stourbridge, United Kingdom GCSE 5 A*, 7 A (incl. Mathematics, English Language and Literature) |

A full academic transcript is available on request.

Awards & Scholarships

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| 2014 | University of Birmingham, United Kingdom Best Final Year Student in Degree Programme (B.Sc. Computer Science) Computer Science (School) Prize |
| 2013 | University of Birmingham, United Kingdom Best 2 nd Year Student in Degree Programme (B.Sc. Computer Science) Science Undergraduate Prize |
| 2012 | University of Birmingham, United Kingdom Best 1 st Year Student in Degree Programme (M.Eng. Computer Science/Software Engineering) |
| 2011 | University of Birmingham, United Kingdom School of Computer Science Excellence Scholarship King Edward VI College, Stourbridge, United Kingdom Baylies Educational Foundation Award Governor's Leaving Scholarship Award |
| 2010 | King Edward VI College, Stourbridge, United Kingdom Trustee's Prize (for Mathematics) |

Appointments Held

Teaching

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| 2012 | University of Birmingham Foundations of Computer Science 1 module demonstrator. This involved holding a weekly office hour, in which students could seek help and advice on assignments and discuss concepts introduced within the module. The purpose of the module is to teach fundamental, theoretical concepts such as complexity, data structures and reasoning about program correctness. A purely-functional subset of OCaml was used as the 'teaching' language, and assignments often involved proving the correctness of simple programs using techniques such as structural induction. |
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Technical Skills

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| Programming Languages | ARM/MIPS/x86/x86-64 Assembly Language Bourne-Again SHell (BASH) C Erlang Haskell Java OCaml Prolog Rust |
| Source Code Management | Git, Mercurial, SVN |
| Operating Systems | GNU/Linux (Arch and Debian) Microsoft Windows |

Primary (academic) interests

Developing methods for automating the detection of backdoors within embedded device firmware.

Additional (not exclusively academic) interests

- Interest in metaprogramming within strong, statically typed languages (with side-effects) such as OCaml and Rust.
- The representation of “high-level” language constructs within “low-level” languages and how their runtime overhead can be minimised.
- Production of “Demoscene” artwork (ANSI/ASCII art).
- Keen passion for music (mostly sub-genres of metal).
- Enjoy films, particularly the work of the (modern) Surrealist director David Lynch.

Referees

Available on request.