

Brandon Falk
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Summary

Young engineer focused on expanding knowledge of electrical engineering and computer science

Education

Verona Area High School [2007 – 2011]
Main Courses: AP Physics, AP Calculus BC, AP Statistics

Work Experience

Siber Systems [Feb 2011 - Present]
Working with Windows Drivers; real-time file monitoring and virtual mounting of remote file systems

Hyland Park [Jan 2007 - Feb 2011]
Served food and helped prepare food for residents at a retirement home

Skills

Computer Science

Strong skills in C and x86, x86-64, MIPS, and ARM assembly
Focus on low level development such as drivers and operating systems
Ability to program in Java, C++, HTML, CSS, and a variety more
Enjoys reverse engineering of the Windows kernel, drivers, malware, and obfuscated code
Works with FreeBSD and Windows primarily with plenty experience on Linux and Android
Capable of GUI development under GTK (a bit rusty) or Windows API
Strengths in optimizations, data structures, and algorithms

Reverse Engineering

Experience with working with IDA, objdump, gdb, and WinDbg
Familiar with low level workings of operating systems and different programming languages
Able to develop exploits for SQLi and buffer overflows
Capable of developing exploits for implementation-specific bugs
Experience decompiling C and C++ by hand or by using Hex-Rays

Electrical Engineering

Rapidly expanding knowledge about electrical engineering
Experience with creating schematics (PCB design experience in progress)
Familiar with 7400 and 4000 series logic to create complex devices
Able to understand transistor level logic used in amplifiers or processors
Textbook knowledge of usage and programming of microcontrollers
Can reverse engineer hardware with little to no background knowledge of the hardware
Familiar with numerous protocols, protocol analysis, and protocol processing
Able to solder, use oscilloscopes, multimeters, and debug hardware

Generic

Greatly enjoys low level explanations and construction
Really quick learner and open minded to new concepts
Color blind, silly but can be an issue in GUI/website/graphic design or resistor color codes

Math

Self taught linear algebra and differential equations (can be spotty)

Physics

Familiar with most physics related to electronics given complexity <= math knowledge

CTF Experience

Defcon 20 Quals

Competed for Sapheads (6 players)
33rd place with 2600 points

Secuinside2012 Quals

Competed for Sapheads (3 players, casual)
27th place with 880 points

Writeups/Reversing

Secuinside2012 Decompiling 'kielbasa' Time Lapse

<https://www.youtube.com/watch?v=6RWWNXuyb6U>

DC20 Quals pp100

<http://www.gamozolabs.com/wups/pp100.html>