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Summary

I am a software developer passionate about low-level who enjoys to understand how the machine really works. I am interested mainly in C, Go, assembly, embedded systems, Linux kernel and Plan9 operating system. I like to understand the definitions, standards and concepts before applying them and I take simplicity as lifestyle and coding philosophy.

I have dedicated many years to computer security, more precisely malware analysis in UNIX-like environmnet. I developed an opensource project entitled malELFicus, which is a library and a toolkit to analyse and infect ELF binaries.

As entrepreneur I founded SEC+, a company focused in computer security consultancy, where our main tasks were pentest, development, codereview and coaching.

Currently I'm working as a team leader at Neoway, and I've been coaching other developers, guiding, researching and defining technologies. I'm the original creator of Nash language and still one of the maintainers. In the past I had worked in the development of a search engine (reverse index) for 'full text search' in Go called Neosearch (now defunct).

I'm also very keen of functional programming, particularly Lisp and Scheme.. I've also worked with Java, Python, JavaScript, PHP, Lua and C++. Apart from my technical skills, I'm a commited professional, with can-do attitude, extremely motivated and someone who enjoys sharing knowledge.

Experience

Neoway   **Sept 2014 - Present**
Software Engineer
Main Technologies: Linux, Go, Python, MongoDB, PostgreSQL, LevelDB, NeoSearch;

Technical consultant of many product's architecture. Team leader and engineer of a high performance maps software, using a micro-service architecture for store, normalize and process spatial operations. This software was developed with simplicity in mind and loosely coupled modules/services. Automatic deploy in Amazon AWS using technologies like CoreOS and Docker.

SEC+   **Nov 2011 - Sept 2014**
IT Security Consultant
Main Technologies: Linux, x86 assembly, C, malelficus, metasploit;

I was CEO and had worked as IT security consultant, performing penetration tests, code review and coaching. At the same time, I'd started the project malelficus for malware analysis and study of ELF infection methods in unix-like environments. The whole project was written in C. Moreover, I lectured about it in the following events: H2HC (Hackers to Hackers Conference), FISL (International Forum of Free Software), OWASP Floripa Day and others.

Neoway (Freelancer)   **Dec 2012 - Dec 2013**
Software Engineer
Main Technologies: Linux, Python, Scrapy, Redis

Development of web crawler using Python, Scrapy framework and redis (PUBSUB) for message passing between services.

Neoway   **Jan 2011 - Mar 2012**
Software Engineer
Main Technologies: Linux, C/C++, Python, Java

I was primarily involved in web scraping projects. Below are some of activities that was my responsability:

- Development of bots/spiders/crawlers for web using Java;
- Develop an application for sending massive SMS;
- Research in data mining, web scraping and pattern recognition.

Access1 Sistemas Informativos   **Feb 2010 - Jan 2011**
Software Engineer/Security Consultant
Main Technologies: Linux, C, shellscript, x86 assembly;

Linux embedding development for ARM SoC, processor WM8505 and VT8500; Research and development of scraping solutions; Reverse engineering of windows applications and web technologies (Flash/Flex);

Freelancer   **Jan 2007 - Feb 2010**
Web Developer
Main Technologies: PHP, DoctrineORM, Apache, HTML, CSS, Javascript;

Web developer as freelancer for e-commerce companies. At that time I'd created the Orion-Framework web project.

Skills Base

Operating Systems: Linux based (Archlinux, Debian, CoreOS), Windows NT/XP/Vista and Plan 9

Networkings: ARP, TCP/IP, UDP, IL, OSI Model

Programming Languages: C, Go, Scheme R5RS, Python, Javascript, Lua and Java;

Processor architecture: x86/IA-32 and AMD64;

Languages: Fluent in Portuguese, Intermediate in English.

Open Source Projects

- **nash**: Nash is a modern shell script language that makes it easy to create reliable and safe scripts taking advantages of operating systems namespaces (on linux and plan9) in an idiomatic way.
  `https://github.com/NeowayLabs/nash`
- **klb**: Nash library to cloud automations in AWS and Azure.
  `https://github.com/NeowayLabs/klb`
- **wabbit**: Go AMQP mocking library
  `https://github.com/NeowayLabs/wabbit`
- **neosearch**: NeoSearch is a feature-limited full-text-search library with focus on indices relationships. Its main goal is to provide very fast JOIN operations between information stored on different indices. Currently in active development.
- **libmalelf**: The libmalelf is an evil library that SHOULD be used for good! It was developed with the intent to assist in the process of infecting binaries and provide a safe way to analyze malwares. (`https://github.com/SecPlus/libmalelf`)
- **malelf**: Malelf is a tool that uses libmalelf to dissect and infect ELF binaries. (`https://github.com/SecPlus/malelf`)
- **orion-framework**: PHP Web Framework
  (`https://github.com/tiago4orion/orion-framework`)

More Info

- **Linkedin**: https://linkedin.com/in/tiagonatel
- **Github**: https://github.com/tiago4orion