

Paul Grandperrin

software
& system engineer

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After three successful years of work as an SRE engineer, I decided to look for new challenges outside of my comfort zone and new opportunities. I went on a journey backpacking around the world and through many cultures to get a deeper perspective on my motivations and objectives. I also used that time to grow new skills in machine learning and deep learning.

I now feel more than ever motivated to find a new job where I could use my SRE and software development experience and my new machine learning skills.

Skills

I'm always looking forward to mastering new concepts, improve them, as well as designing innovative systems that make use of them.

My main interests are: high performance software development, distributed systems, databases architectures, virtualization, security, operating systems and more recently A.I. and deep learning.

Please see the annexe for more details.

Professional experiences

2013 - 2016
3 years
SRE Engineer
Paris, France

French Ministry of Defense - Big data and search engine SRE team
Projects under NDA.

Keywords : Elasticsearch, Titan (distributed graph database), Puppet, knowledge representation: RDF/OWL, cluster-wide performance tracing with perf/sysdig + ELK & framegraphs, job optimization using DFAs, hardware and system tuning, Java, Ruby, high performance Rust

Reference : under NDA but maybe a phone call can be set up

2013
6 Months
R&D Intern
Paris, France

French Ministry of Defense - Big data and search engine SRE team
Projects under NDA.

Keywords : Elasticsearch, HBase, Hadoop, Sandboxing (JVM, Seccomp.), Java, Ruby, C

Reference : under NDA but maybe a phone call can be set up

2011 - 2012
6 Months
R&D Intern
Paris, France

Alter Way Hosting - IT hosting and outsourcing company

Development :

- Extend the OpenNebula open-source project to be able to manage CPU, memory and storage hotplugging and write all the needed drivers to work with Xen, KVM and iSCSI (NetApp).
- Partly rearchitecture the core of OpenNebula to be able to manage a pool of heterogenous storage backends.

Keywords : Cloud Computing, Virtualization, OpenNebula, Xen, KVM, OpenVZ, iSCSI, NFS, Linux, FreeBSD, C++, Ruby, Clustered file systems, FreeBSD, ZFS

Reference : Kevin Mazière kevin.maziere@alterway.fr

2010 **3,5 Months**
R&D Intern
Grenoble, France

Sogeti High Tech - Engineering and Technology Consulting Service company

Keywords : Java/J2EE, REST, JQuery, ExtJS

Education

2010 - 2013
Compiègne, France

Diplôme d'Ingénieur en génie informatique, filière SRI
Université de Technologie de Compiègne - UTC

U.S. equivalent

Master's degree in computer engineering
specialized in computer systems and networks

Annexe: details on computer science skills

This section does not contain all the technologies and skills I got interested in and practiced but give a quick idea of my computer science culture and interests.

I'm a strong self-learner, always eager to understand and master new concepts and technologies. I'm passionate about designing elegant solutions to highly complex problems.

System & Network administration

Operating System	GNU/Linux Debian, Ubuntu, Centos, FreeBSD
Virtualization	Hardware-Level : Xen, KVM OS-Level : systemd-nspan, docker
Tool / Daemon	Unix CmdLine, Git, Vim, System D, Latex...
Database & Search	Elasticsearch, Hadoop/Hbase, Titan, Cockroachdb, SQL, Lucene
Storage	FS : ZFS, BTRFS, Ceph Block-Level : iSCSI
Networking	IP_{v4/6}, TCP/UDP, Ethernet, BGP, DNS...
Monitoring	ELK, sysdig, perf, dtrace, flamegraphs
<i>Theoretical knowledge</i>	OS architecture, modern CPU & GPU architectures, memory management, routing Halfway through the book: Site Reliability Engineering : How Google Runs Production Systems

Software development

Low Level	C11, X86_64 (incl. SIMD instructions), 68K, WHDL
High Level	Rust, Ruby, C++11, Java 7, ES6, Python, Bash, Haskell
Web	HTML/CSS, ES6, WebAssembly, WebGL2
API / Framework	OpenGL (mainly 3+ and ES 2.0), Vulkan, OpenCL, LLVM, Qt4
System / Network	IP_{v4/6} socket, Linux API, LKM
<i>Theoretical knowledge</i>	optimization techniques, distributed algorithms, NFA/DFA, compilers

Artificial Intelligence

Programming	Tensorflow, Numpy, Prolog (logic programming), Lisp, SPARQL, Gremlin
Knowledge representation	Semantic networks & ontologies : OWL, RDFS, RDF ... <i>Expert System</i>
<i>Theoretical knowledge</i>	Neural Networks : course by Geoffrey Hinton from Coursera in 2013 Deep Learning : course by Andrew Ng from Coursera & deeplearning.ai <ul style="list-style-type: none">• Neural Networks and Deep Learning• Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization• Structuring Machine Learning Projects• Convolutional Neural Networks Genetic algorithms, Ontologies, Inference

Security

Attack	Stack overflow, ROP, ARP poisoning, DNS spoofing, SQL injection, XSS ...
Defence	Sandboxing (linux' chroot, namespaces/seccomp/cgroups), Firewalling, VPN, SSH, SSL, PGP
<i>Theoretical knowledge</i>	System & compilation hardening, Cryptography

Annexe: my professional heroes

Having heroes is important and it gives an idea of what my professional ambitions are.

Alan Kay	Smalltalk, OOP, his speeches
Alan Turing	Turing machines, cryptanalysis of Enigma
Andrew Ng	Coursera, Google Brain, Deep Learning, his speeches
Ben Treynor	Defined and documented SRE
Bjarne Stroustrup	C++, his technical blog and speeches
Brad Spengler	GRSecurity, PAX
Brendan Gregg	Solaris, Dtrace, Flamegraphs, his blog
Brian Kernighan	Unix, C
Bruce Schneier	His blog, cryptographic algorithms
Bryan Cantrill	Solaris, Dtrace, Joyent, Triton, his technical blog and speeches
Chris Lattner	LLVM, Clang, Swift
Dan Luu	Google's TPU, his technical blog
Dennis Ritchie	C, Unix, Plan 9
Donald Knuth	Tex, The art of computer programming
Fabrice Bellard	QEMU, FFmpeg
Fei-Fei Li	ImageNet
Geoffrey Hinton	Backprop in deep nets, Restricted Boltzmann Machines
George Hotz	Security research, Google Project Zero
Ian Goodfellow	GAN
Jeff Bonwick	ZFS
Jeff Dean	Google Brain, Tensorflow, Spanner, BigTable, Mapreduce, LevelDB
John Carmack	graphic engines, VR, his technical blog and speeches
Ken Thompson	Unix, Plan 9, UTF-8, Go
Larry Page	Page Rank, Google, Alphabet
Lennart Poettering	SystemD, Pulseaudio, Zeroconf, his technical blog and speeches
Linus Torvalds	Linux, Git
Matias Duarte	Material Design
Michael Abrash	graphic engines, VR, his technical blog
Niko Matsakis	Rust, his technical blog and speeches
Noam Chompsky	Chomsky hierarchy
Paul Graham	Hacker News, Ycombinator, his blog
Richard Stallman	GCC, GNU, GPL
Rob Pike	Plan 9, UTF-8, Go, his technical blog and speeches
Sam Altman	OpenAI, his speeches
Thaddeus Grugq	His blog on security
Theo de Raadt	OpenBSD, OpenSSH
Tim Berners-Lee	WWW
Yann Lecun	Convolution Nets