

Andrei Pavel

curriculum vitae

Bucharest, Romania

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I work best on Linux with C++, D, Dart, Flutter, Go, Rust

technical skills

advanced

C: C11, user-level, Arduino-dialect, OpenMP, MPI, pthreads

C++: C++2a, casting, constness, dynamic loading, initialization order, inheritance, linkage, memory management, pointers, references, move semantics, preprocessor, synchronization in concurrent programming, templates, STL, boost, CUDA, OpenGL, autotools, meson, lcov, cppcheck, clang-tools

Databases: Cassandra, CouchDB, MSSQL, MariaDB, PostgreSQL, Oracle, Sybase, Sysrepo, sqlite

Debugging: cgdb, gdb, gdbgui, lldb, pdb, rr

Go: goroutines, reflection, BLE, ORMs, websockets, socket.io

Operating systems: Linux, systemd, sys-v-init, vim

Scripting: bash, zsh, sed, ack, ripgrep

Markup: bpml, css, dtd, json, html, latex, markdown, xml, xsd, xsl, yang

Networking: DHCP, DNS, TCP, UDP, ip, iw, netconf, netopeer, nftables, ss, tc, tcpdump, Wireshark

Version control: git

Virtualization: Docker, docker-compose, Helm, Kubernetes, KVM, libvirt, virsh, QEMU

intermediate,
but excited
about

D: mixins, templates

Flutter: asynchrony, Dart, generics, isolates, mixins, Provider

Rust: affine types, linkage, macros, mutability, object lifetime, unsafety

work experience (5 years, 10 months)



May 2016 —
present
(4 years, 4
months)

Software Engineer (formerly Junior C++ Developer), Qualitance, Romania.

Kea: open-source DHCP server, C++, enhancements

Open-source contributions to CESNET, ISC, Sysrepo

◦ <https://github.com/isc-projects/kea/pulls?q=author%3Aandrei-pavel>

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◦ <https://github.com/sysrepo/sysrepo/pulls?q=author%3Aandrei-pavel>

◦ <https://github.com/CESNET/libyang/pulls?q=author%3Aandrei-pavel>

◦ <https://github.com/CESNET/Netopeer2/pulls?q=author%3Aandrei-pavel>

◦ support for **Cassandra** operations with multiple data sources

◦ **DHCPv6** features and features that help migrate to DHCPv6 e.g. lightweight-4o6 DHCP options

◦ **Robot Framework** automated system-testing

◦ live, persistent server reconfiguration

◦ integration with Sysrepo data source, NETCONF protocol, YANG models

Runlock: smart-lock system, development & deployment & unit tests

◦ BLE beacon advertising & GATT communication

◦ Electronic access control of doorlocks using Assa Abloy protocol

◦ REST

Bullguard: antivirus backend for Mac OS X, C++, unit tests

◦ scanning & quarantining of all file types

◦ updating the virus database



August 2014
— October
2015 (1 year,
2 months)

Associate Software Engineer, Misys Financial Software, Romania.

- Development of treasury and capital markets software
- Implemented support for Negative Rates in Money Market Rollover (3 months).
- Maintenance and bug-solving (12 months).
- Worked with services distributed using CORBA across Windows, UNIX, Solaris querying Oracle, MSSQL, Sybase databases.
- Developed business objects (C++) and front-end functionality (C#) for Summit.



June 2013 —
October 2013
(3 months)

Software Engineering Intern, Intel®, Romania.

- Application development and performance optimizations in the high performance computing
- Contributed to the development of parallel applications designed to benchmark HPC devices.
- Benchmarked the Intel® XeonPhi™ coprocessor during the early days of its release.
- Used C, C++, OpenMP, native threading, low level intrinsics for more fine grained optimizations, Intel® vTune™ Amplifier for profiling and characterization studies.

portfolio

- 2019–2020 **Radio România Actualități Podcasts**, *Podcast app written in Dart with Flutter.*
<https://play.google.com/store/apps/details?id=ro.radioromaniaactualitati.podcasts>
- 2018–2020 **bash-boilerplate**, *bootstrap your bash project with this handy boilerplate.*
<https://github.com/andrei-pavel/bash-boilerplate>
- 2018–2019 **go-boilerplate**, *bootstrap your go project with this full-fledged boilerplate.*
<https://github.com/andrei-pavel/go-boilerplate>
- 2014 **Rapunzel**, *simulation and rendering of hair in real time using GPGPU techniques.*
<https://github.com/andrei-pavel/rapunzel>

books

- currently reading **The way to Go**, by Ivo Balbaert.
<https://www.goodreads.com/book/show/13553772-the-way-to-go>
- latest read **Seven Databases in Seven Weeks: A Guide to Modern Databases and the NoSQL Movement**, by Eric Redmond.
<https://www.goodreads.com/book/show/25334471-optimizing-software-in-c>
- more on Goodreads <https://www.goodreads.com/user/show/63238106-andrei-pavel>.

studies

- 2010–2014 **Bachelor of Computer Science**, *Politehnica University of Bucharest, Romania.*
Automatic Control and Computer Science with major in Computer Systems Architecture
- Thesis **Simulation and rendering of hair in real time using GPGPU techniques**
an algorithmic approach to the problem of real time simulation and rendering of hair in a highly-parallel multi-core environment