

# 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 (9 years , 8 months)



**Software Engineer (formerly QA & Support Engineer), Internet Systems Consortium, Remote.**  
Kea: open-source DHCP server, C++

October 2020

— present

(3 years , 9 months)



May 2016 — October 2020

(4 years, 5 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-pavelQ>
- <https://github.com/isc-projects/kea/pulls?q=author%3Aandrei-pavel>
- <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