# Andrei Pavel

curriculum vitae

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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, preproessor, 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, 9 months)

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



May 2016 — present (4 years, 3 months)

- Kea: open-source DHCP server, C++, enhancements Open-source contributions to CESNET, ISC, Sysrepo
- o https://github.com/isc-projects/kea/pulls?q=author%3Aandrei-pavel
- o https://github.com/sysrepo/sysrepo/pulls?q=author%3Aandrei-pavel
- https://github.com/CESNET/libyang/pulls?q=author%3Aandrei-pavel
- o https://github.com/CESNET/Netopeer2/pulls?q=author%3Aandrei-pavel
- o support for Cassandra operations with multiple data sources
- o DHCPv6 features and features that help migrate to DHCPv6 e.g. lighweight-4o6 DHCP options
- o Robot Framework automated system-testing
- o live, persistent server reconfiguration
- o integration with Sysrepo data source, NETCONF protocol, YANG models

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

- BLE beacon advertising & GATT communication
- o Electronic access control of doorlocks using Assa Abloy protocol
- REST

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

- o scanning & quarantining of all file types
- $\circ\,$  updating the virus database

#### Associate Software Engineer, Misys Financial Software, Romania.



August 2014

2015 (1 year,

- October

2 months)

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.



October 2013

(3 months)

Software Engineering Intern, Intel®, Romania.

Application development and performance optimizations in the high performance computing

- o Contributed to the development of parallel applications designed to benchmark HPC devices.
- Benchmarked the Intel<sup>®</sup> XeonPhi<sup>TM</sup> coprocessor during the early days of it's release.
- Used C, C++, OpenMP, native threading, low level intrinsics for more fine grained optimizations, Intel<sup>®</sup>
  vTune<sup>TM</sup> Amplifier for profiling and characterization studies.

## portfolio

2019-2020 Radio România Actualităti 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

The way to Go, by Ivo Balbaert.

reading

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