**Filipe Coelho**
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# Filipe Coelho

## Software Developer

### About Me

Self-taught software developer, with personal interest in C and C++.
Easily motivated by a good challenge. Open-Source enthusiast.

## Software Development Skills

### Programming Languages

- C
- C++
- JavaScript
- Python

### Programming Frameworks

- DPF
- JUCE
- Qt
- HTML5/CSS3/ES6

### Programming Systems

- Bash scripting
- Debian packaging
- Docker
- POSIX/macOS/win32 APIs

### Created Open-Source Projects

- **Cardinal** - *cardinal.kx.studio* - 2021
  Virtual modular synthesizer, based on VCV Rack.
  Self-contained audio plugin and standalone app.
- **Carla** - *kx.studio/carla* - 2011
  Fully-featured cross-platform audio plugin host.
  Loads several formats and also works as an audio plugin itself.
- **DPF** - *github.com/DISTRHO/DPF* - 2011
  C++ framework to create real-time cross-platform audio plugins.
  Provides UI support using Cairo or OpenGL.
- **DPF-Plugins** - *github.com/DISTRHO/DPF-Plugins* - 2012
  A collection of real-time audio plugins, based on DPF.

## Work Experience

### March 2024 - Current, *Linux Developer*, Darkglass Electronics Oy

- Creation of a highly-optimized, real-time Linux embedded system with graphics
- Linux kernel driver development
- Overseeing and guiding team towards a Linux-based OS
- Programming of complex UI + state + audio architecture

Technologies used: Buildroot, C, C++, Linux kernel, LVGL

### September 2015 - September 2017, May 2019 - February 2024, *Lead Software Developer*, MOD Devices GmbH / MOD Audio UG

- Creation of a highly-optimized, real-time Linux embedded system
- Programming of a complex HTML interface and webserver
- Programming of real-time audio applications and plugins

Technologies used: Buildroot, C, C++, Docker, HTML5, JavaScript, Python

### October 2018 - May 2019, *Software Developer*, BEWATEC

- Full-stack developer

Technologies used: AWS, Node Express, Go, ReactJS

### September 2017 - October 2018, *Software Developer*, Snuk

- Full-stack developer

Technologies used: Ansible, Django, Docker, Go, GCP, Grafana, ReactJS

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# Interests

### Professional
- Creation of desktop applications
- Software development focused on high-performance, with real-time requirements in mind
- Software with hardware integration

### Personal
- Audio production (FL Studio, Renoise and self-made applications)
- Linux and Open-Source enthusiast

# Publications and Presentations

**2023,** *Making a Standalone FX Pedal Based on Embed Linux,* **Ubuntu Summit**
https://www.youtube.com/watch?v=PpBKwD5PSFs

**2019,** *Past, Present and Future of the JACK Audio Connection Kit,* **Sonoj**
https://media.ccc.de/v/sonoj2019-1902-jack-past-present-future

**2018,** *An explanation of various plugin formats and why they exist,* **Sonoj**
https://media.ccc.de/v/sonoj2018-1803-plugin-formats

**2018,** *Carla feature overview and workflows,* **Linux Audio Conference**
https://media.ccc.de/v/lac2018-24-carla_plugin_host_feature_overview_and_workflows

**2017,** *Carla Demonstration and Workflows,* **Sonoj**
https://media.ccc.de/v/sonoj2017-1704-carla-plugin-host

**2017,** *Team presentation about the MOD,* **Linux Audio Conference**
https://youtu.be/kmil9luagVk

**2016,** *LV2 Plugin Publishing for MOD,* **Linux Audio Conference**
https://media.ccc.de/v/minilac16-publishingyourlv2

**2016,** *Making Plugins with DPF,* **Linux Audio Conference**
https://media.ccc.de/v/minilac16-ltsmakesomeplugins

**2015,** *Carla Presentation,* **Linux Audio Conference**
https://lac.linuxaudio.org/2015/video.php?id=47&h=576

**2015,** *Testing audio plugins with Carla,* **Linux Audio Conference**
https://lac.linuxaudio.org/2015/video.php?id=70&h=576

**2015,** *Personal Interview,* **Libre Music Production**
https://libremusicproduction.com/articles/friday-interview-2-falktx

**2015,** *Publication about Carla,* **Linux Magazine**
https://www.linux-magazine.com/Issues/2015/175/Carla

**2014,** *DPF Presentation,* **Linux Audio Conference**
https://lac.linuxaudio.org/2014/video.php?id=91&h=720