

new faces

of FreeBSD

BY DRU LAVIGNE

This column aims to shine a spotlight on contributors who recently received their commit bit and to introduce them to the FreeBSD community.

In this month's column, the spotlight is on **Alfredo Dal'Ava Júnior**, who received his src bit in January, and **Ryan Moeller**, who received his src bit in February.

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 Tell us a bit about yourself, your background, and your interests.

- **Alfredo:** I'm Alfredo Dal'Ava Júnior (adalava, alfredo@freebsd.org), born in Poços de Caldas / MG / Brazil and living the last 10 years in the metropolitan area of Campinas / SP / Brazil. I am married and have two children. I have developed software professionally since I was young and worked my way through many programming languages while making some small contributions to open source projects. My background is in Computer Science, but I have always liked the iteration between the machine and the real world, so I have stayed in close touch with electronics, sensors, actuators, and machines in general.



I am a curious person, and my curiosity has led me to good experiences in several areas. For a long time, I worked with networks, internet service providers, implementation of network protocols and services, automation, data storage systems, embedded systems. I also experimented with robots, drones, and machine learning.

Outside of work, I like musical instruments, mountain bikes, and more recently, monitoring meteors with video cameras and radio frequency, generating scientific data for study by some networks, and gradually deepening my understanding of these objects that enter the Earth's atmosphere every day.

- **Ryan:** I'm 31 years old, got my first computer when I was 10, and started to develop an interest in computer hardware and software shortly after that. I have always been interested in electronics and mechanics and puzzles, and that's basically what computers are made of. Through middle school and high school, I volunteered at community theaters as a backstage hand, doing set construction, rigging, lighting, and sound. I was hired as Master Electrician at the local playhouse and also did lighting design for their children's theater productions. After high school, I worked with several event production companies as a freelancer doing live video, lighting, and sound. I filled various roles including technical director, lighting designer, assistant director, sound designer, video editor, and graphic designer. For a while, I worked with a local DJ company doing live generative video projections. Eventually, the unstable income made it hard to continue as an independent contractor, so I decided to pursue a degree in Computer Science and a career in Software Development.



To the best of my recollection, my interest in development started when I was around the age of 12. My mom was learning HTML and I guess it started to rub off on me. It became a hobby. In middle school, I spent hours in the library/computer lab studying any books I could

find about programming (mostly old books on BASIC). I took the advanced computer classes and competed nationally in C++ programming competitions through the computer club in high school. After high school, I continued to develop software through hobby projects and occasional freelance web development projects. In my free time, I tinkered with game engines, audio processing, shader programs, embedded systems, operating systems, etc. When I finally went to finish up my CS degree, I had become aware of a gap in my knowledge where I was missing some of the fundamentals of data structures, algorithms, theory of computation, and math, and I was eager to fill it.

Now I am a software engineer on the OS/Services team at iXsystems. My main project has been the upstreaming of FreeBSD platform support into the OpenZFS (formerly ZFS on Linux) code base. I've particularly been focused on the build system, test suite, and automation. At this time of writing, tests are being passed and FreeBSD support is on the brink of being merged.

How did you first learn about FreeBSD and what about FreeBSD interested you?

- **Alfredo:** I was a heavy FreeBSD user in the early 2000s when I worked for a small software and automation company in my hometown that offered IT solutions to other companies in the city, including some ISPs. We had a subscription to a magazine that each month brought CDs with the latest versions of various open source operating systems and different distros. FreeBSD was one of those systems, and at some point, we decided to go with FreeBSD for some core network activities. Several attributes caught my attention such as the convenience of installing all at once a complete system with kernel sources and compiler ready to easily customize and optimize for that machine. At the time, we configured and installed dozens of machines to control network access, optimize and control bandwidth usage in the most remote and unfriendly locations, and to host websites and email servers.

- **Ryan:** I remember in high school I would bring a SLAX live CD to get around policies in the computer labs, such as to run Firefox instead of Internet Explorer and play games. My earliest recollection of FreeBSD though was after high school. I used to hang around the Insanely-Mac IRC and someone brought up using ZFS zvols for backing VMs. That led me to FreeBSD. I was thrilled by ZFS and by the ease of use of the network stack for doing silly things like bridges and such. I stumbled across the BSD Now podcast in my quest for knowledge and was hooked. My original storage zpool is still in use to this day, though it has been through a lot of trials and transformations.

How did you end up becoming a committer?

- **Alfredo:** The company I work for, Eldorado Research Institute, located in Brazil, has some partners that use FreeBSD and some coworkers had already contributed to the FreeBSD project. At the end of 2018, after many years away from FreeBSD, I was invited to collaborate on the efforts part-time. I started participating in IRC channels to understand how I could help and joined forces with other committers like Brandon Bergren (bdragon), Justin Hibbits (jhibbits), Leandro Lupori (lupori), and Mark Linimon (linimon) on the POWER processor front.

For about one year, I contributed debugging problems, helped test hypotheses and patches, and created my own patches for different areas such as loader, kernel, base, ports, and LLVM, helping in whatever way I was able to make the transition from the old GCC4 to LLVM happen, always with the help of these and other committers. At one point, Justin Hibbits

kindly invited me to be mentored by him and I accepted the offer with great satisfaction and recognition of the work that was being done.

- **Ryan:** I was familiar with FreeBSD and had been using it and hacking on it and submitting patches here and there for years. In my senior year of college, I started as an intern at iX-systems on the OS/Services team and I joined the team full time a little under a year later. There, I was able to work on contributing more frequently to FreeBSD. Eventually, the crew at iX proposed me for a src commit bit. Now my colleagues mmacy@ and mav@ are my mentors! People joke about it being a punishment not an honor, but for me it was really a life goal achieved.

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How has your experience been since joining the FreeBSD Project? Do you have any advice for readers who may be interested in also becoming a FreeBSD committer?

- **Alfredo:** Being active in an open source project is something new for me and I'm having a lot of fun making things work. FreeBSD has a team of competent developers who are willing to help, and that has greatly facilitated my learning to solve problems in the best way. If you have the opportunity of working in a company that allows you time to work in the project, that would be great!

For anyone who is interested in being a committer, I recommend checking the good documentation that is available, attending the IRC channels in the areas of interest, participating in discussions, subscribing and interacting on email lists, trying to fix bugs already reported, or helping to maintain an updated port. These are some ways to make yourself known and show your work. A commit bit is not required to contribute—developers are open to receive and review code sent by anyone, and when your code is ready and accepted, authorship is credited in the commit message. At some point, your commitment will certainly be recognized by a committer who will indicate your name and guide you through the process.

- **Ryan:** My experience has been great. The community has been warm and welcoming. I have had one frightening experience already: I am admittedly a subversion noob, and when it came time for me to make my first commit, my heart skipped several beats when I realized that unlike git there is no svn push after you commit, the commit happens globally. Fortunately, the commit was ready! So, my advice for newcomers: practice with subversion!

DRU LAVIGNE is the author of *BSD Hacks* and *The Best of FreeBSD Basics*.