tiagokatcipis
software engineer

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GitHub
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languages
English, Portuguese

programming languages
Go, C, C++, Python, Lua, Bash, Javascript, Nash

protocols
HTTP, gRPC, SIP, RTP, AMQP

cloud
Kubernetes, AWS, Azure, Google Cloud, Docker, Terraform

automation
Ansible, Make

dev environment
Vagrant, Docker Compose

monitoring
Prometheus, Grafana, StatsD, Sysdig

Introduction

I'm a curious programmer that likes to explore different ways to design, build and test software always trying to understand as much as I can from the entire environment I'm working in.

That led me to do a lot of different things in my 10 years career, from embedded software in C to distributed systems in a variety of languages and protocols.

I'm passionate about automation and minimalism when building scalable, efficient and flexible software.

experience

2019–present FromAtoB Berlin, Germany
Software Engineer - Search2Book Team

- Implemented new location service from scratch.
- Added PSD2 compliance on payment method storage service.
- Helped migrate core services from legacy environment to new GKE cluster.
- Built backup routines for critical service (Google Memorystore).
- Improved development environments making them more consistent.
- Integral part of the hiring process doing interviews and pair programming sessions.

2017–2019 Neoway Florianópolis, Brazil
Software Engineer - Data Platform Team

- Led the migration of the entire data platform from AWS to Azure.
- Developed tools to automate building infrastructure, like klb.
- Created new service to solve audio captchas (Go, Python, SVM).
- Prototyped image captcha solver using TensorFlow.
- Did 3 different presentations in 2 different conferences.

2015–2017 Neoway Florianópolis, Brazil
Lead Software Engineer - Data Capture Team

- Led development of a new data capture architecture.
- Implementation of multiple services for the new architecture (Python, Go).
- Added improved and fully automated monitoring system (Sysdig, StatsD).
- Coached the team on better testing practices and TDD.
- Fully automated dev environments and deployment (Docker, Docker Compose).
- First team on the company to deploy and use Kubernetes to manage more than 100 deployments.

| 2012–2015 | **Dígitro** | Florianópolis, Brazil |
| | *Lead Software Engineer* | |

- Developed VoIP phone with color touchscreen from scratch (C on a Blackfin DSP).
- Automated development environment for cross compilation (Ansible, Vagrant).
- Replaced legacy audio service that used Flash (RTMP) with an HTTP/HTML5 solution (NodeJS,C).
- Coached team on automated testing and TDD.

| 2010–2012 | **Dígitro** | Florianópolis, Brazil |
| | *Software Engineer* | |

I started working on a solution to web audio playback with very specific audio effects (like silence removal, change in pitch) that had to be developed using Flash (RTMP). To solve that problem I worked with two different open source C++ projects that did reverse engineering of the RTMP protocol to develop our own Flash Media Server. I worked directly with the integration of the server playback logic with Gstreamer and the plugins that enabled the desired effects on playback.

The next project was a solution to biometric identification using a third party C library that built and scored voice models. I developed a REST service in Lua that integrated with C code that built the voice models and used MongoDB to store the voice models and perform searches on the database.

| 2008–2010 | **Dígitro** | Florianópolis, Brazil |
| | *Trainee* | |

Helped in the development of an cross platform (Windows and Linux) audio streaming library for a VoIP softphone, aiming at porting the current application that was Windows only to Linux. I also got involved in the development of a prototype for a voice biometrics system.

| 2007-2008 | **Cyclops / LAPIX** | Florianópolis, Brazil |
| | *Trainee* | |

Worked on adding new features on the system responsible to integrate medical equipment to the DICOM system, developing a cross platform domain specific graphical XML editor. This involved learning C++ and XML parsing, together with developing cross platform GUI applications, on this case using WxWidgets. The code has been tested using CppUnit.

open source projects

2017-now   **mdtoc**   https://github.com/madlambda/mdtoc
             A very simple table of contents generator for markdown.

2016-2018   **nash**   https://github.com/NeowayLabs/nash
             Nash is a shell language focused on simplicity and having a nicer syntax than
             traditional shells and support to containers. It also strives to be safer than tra-
             ditional shells.

2016-2018   **klb**   https://github.com/NeowayLabs/klb
             klb is used to automate infrastructure creation on AWS and Azure. I got involved
             on designing the support for Azure since this was the tool used to migrate Ne-
             oway production infrastructure from AWS to Azure.

2013   **CppUTest**   http://cpputest.github.io
             CppUTest is a C /C++ based unit xUnit test framework for unit testing and for
             test-driving code.
             In this project I worked both on improving the documentation and at adding
             new native types to the mock framework (which involved some refactoring).

2012   **GStreamer**   http://www.gstreamer.net
             GStreamer is a library for constructing graphs of media-handling components.
             I contributed with a plugin named *removesilence* and some documentation for
             the GstCheck documentation.