

# Felipe Miguel Nery Lunkes

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## Personal profile and professional goals

Acting as a **backend Jr. developer** at UbiSafe/Orsegups Participações S/A.

I have experience in development using C, Python, Java and x86 Assembly, in addition to using tools such as git, gcc, nasm, fasm, among others. Command line aficionado, I have experience in Unix-like systems such as Linux, FreeBSD and macOS, as well as shell script development. I have a technical background in informatics at Escola Técnica Vital Brasil-Polimig (2013) where I became familiar with notions of hardware, robotics, HTML/CSS, Pascal, Delphi, C, Java, SQL, systems analysis, entrepreneurship and VisualBasic. Among the programming languages, I studied Java, C, Visual Basic and SQL for 1 year. I've also become a self-taught x86 assembly developer since then. During high school with technical training, I worked as a computer instructor for all ages, with the federal government program Telecentros.BR, in addition to working as a freelancer in software development and maintenance of laptops and desktop computers. I have training in Office Package, Windows, web design and computer maintenance by CNI (2010). Later, I graduated with a bachelor's degree in Biological Sciences from the Universidade Federal de Minas Gerais (UFMG), with an emphasis on Biotechnology and Health, focusing on the areas of Bioinformatics, Biochemistry and Molecular Biology.

In my spare time, I am interested in studying and improving myself, in addition to developing an operating system author project (Hexagonix) and associated projects, as well as projects in low-level programming. I always try to update myself in the most used languages and frameworks. Growing interest in Rust and Go. Starting studies in other languages, such as JavaScript, Rust and Go.

See my projects on my **GitHub** or on **LinkedIn**.

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## Certificates

### 2023

- Attending Bootcamp: Python developer - Faculdade XP Educação;

### 2022

- Java (143 min) - Let's Code (Santander Coders);
- Minicamp Cloud & Cybersecurity (32 hours) - Faculdade XP Educação (Brazil);

### 2017

- Introduction to Programming (3 hours) - Universidade Federal de Minas Gerais (Brazil).

### 2010

- Maintenance of notebooks - CNI;
  - Office Package - CNI;
  - Windows operating system - CNI;
  - Web designer - CNI.
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## Professional experience

**2023-currently | Jr. backend developer at UbiSafe/Orsegups Participações S/A**

- Jr. backend developer at UbiSafe/Orsegups Participações S/A from June 2023.

## 2023 | Career transition

- Career transition from biologist (after completing the academic master's course in Health Sciences) to backend developer (Java, C and Python). I've been improving myself, after my technical training and work as a freelancer, for over 2 years. My portfolio can be found **here**. Since 2012, I've been working as a freelancer and developing personal projects (hobbies), gaining experience in x86 Assembly, Java, Python, C, SQL, shell script, among other technologies, languages and frameworks.

## 2021-2023 | Master's student - Instituto René Rachou/Fiocruz Minas - Belo Horizonte, Brazil

- Master's degree in Health Sciences from IRR/Fundação Oswaldo Cruz;
- Project that aims to functionally characterize *Schistosoma mansoni* proteins.

## 2016-2020 | Scientific Initiation Student - René Rachou Institute/Fiocruz Minas - Belo Horizonte, Brazil

- Student of Scientific Initiation (IC) during graduation.

## 2015-2016 | Teaching experience - CNPq and Ordem e Progresso State School - Belo Horizonte, Brazil

- Scholarship holder of the Institutional Teaching Initiation Scholarship Program (PIBID), coordinated by the Pontifical Catholic University of Minas Gerais (PUC Minas), working in high school at the Ordem e Progresso State School (Belo Horizonte). The activities carried out include:
  - Preparation of theoretical and practical classes for students of all years of high school;
  - Preparation and correction of tests and assessment activities;

## 2013-2015 | freelance software developer

- Freelance software developer, using Java, C and VisualBasic.

**Skills:** Visual Basic · C · Java

## 2012-2015 | Freelance computer maintenance technician

- Technician responsible for the maintenance of desktop computers and laptops, acting as a freelancer.

**Skills:** Microsoft Windows · Hardware · Linux

## 2013-2014 | Computer Instructor - Centro de Apoio Comunitário Serrano - Belo Horizonte, Brazil

- IT instructor for children and seniors during and after completing the technical course;
- Fellow associated with the federal program TELECENTROS.BR, which aims to democratize access to technology.

**Skills:** Microsoft Excel · MySQL · Teaching · Linux · Java · Programming languages

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## Projects, portfolio and technologies

Click on the name of each project to access the respective repository on GitHub.

- C:
  - **Linux Operating System (Linux OS) | 2022-currently**
    - \* Linux OS is an operating system in early development and is developed in C language. Linux OS has educational and testing purpose, allowing me to improve my experience in C. Furthermore, it is documented, allowing other people to use it for the same end.
  - **PX-DOS | 2013-2015**

- \* PX-DOS is derived from an older version of a DOS system, the Public Domain Operating System (PDOS). PX-DOS adds new layers, abstractions and functions on top of PDOS and extends its functionality. Several new utilities (userland) have also been added to the base system. System components were divided into repositories. We have the repository which contains the kernel, boot loader and shell, which contains the system init (user mode) and system utilities. We also have the repository with the assembly and libc development libraries.
- **PXBAS | 2011-2013**
  - \* PXBAS is a simple BASIC interpreter for MS-DOS, FreeDOS, PX-DOS, PDOS and compatibles. It may work on 32-bit versions of Windows.
- Java:
  - **Java Power Shell (JpS) | 2013**
    - \* Java Power Shell (JPS) is a portable shell developed in Java and tested on Linux, macOS and Windows. Used as a learning project for the main Java interfaces during the technical course, using language inheritance and standard methods.
  - **Java-Contact-Book | 2013**
    - \* Contact book project developed in Java and using a SQL database that allows adding and consulting personal information.
  - **Java-Random | 2013**
    - \* Varied Java projects using SQL databases and Java methods.
- Python:
  - **Python-exp | 2021-currently**
    - \* General purpose tools developed in Python to automate or facilitate tasks performed at the command line. Also, in-language learning utilities like BMI calculator. The projects are distributed among several repositories on my GitHub.
  - Use of Python to create a frontend for tools that run on the command line. Mainly using Tkinter and derivatives, targeting Linux and FreeBSD (WSL on Windows is also supported);
  - Creating small programs to study algorithms in Python;
- C++:
  - **Arduino | 2012-2018**
    - \* This is one of the Arduino based projects developed between 2012-2018. Other projects can be found among my repositories on GitHub.
- Assembly:
  - **Hexagonix OS | 2015-currently**
    - \* Hexagonix is a simple and lightweight operating system, Unix-like and completely developed in x86 Assembly. Hexagonix is composed by a simple monolithic kernel, called Hexagon, shell, Unix-like utilities developed in Assembly and libraries for the development of other utilities. In addition, it is self-hosting, with a port of the fasm assembler (flat assembler), the same used for its construction. It operates in 32-bit protected mode, with FAT16 support, Pentium III or higher processors and 32 MB of RAM or more. It can be installed on a physical machine, running natively. The system aims to be simple and fast, based on some concepts of the Unix philosophy, in addition to being licensed under the BSD-3-Clause license, a permissive free software license. At the moment, all the project documentation is in Portuguese and English, while the code comments are in Portuguese. Hexagonix has extensive documentation covering many system, language, and hardware features. Documentation can be found at: [github.com/hexagonix/Doc](https://github.com/hexagonix/Doc). The project also aims to be an educational tool, with well-commented code.
  - **Bin S.O | 2011-2013**
    - \* My first operating system project developed entirely in Assembly x86. The system implements a simple file system, called BinFS, based on a linked list of files. The file system is created using a

tool developed in C, which creates a disk image. Bin OS runs in 16-bit real mode and supports the development of utilities using assembly libraries. The system can be installed on devices to run natively, through an installer running on a Linux LiveCD (Netuno OS).

– **Asm-MIPS | 2018**

- \* MIPS Assembly code written by me for the Discipline of Computer Organization I (DCC006) at the Computer Science Department of the Federal University of Minas Gerais (UFMG), in 2018. The code can be executed in the MARS MIPS Simulator.

- Linux:

– **Netuno OS | 2012-2014**

- \* During 2012, motivated to learn more about how a modern operating system works, I started to develop a small and simple Linux distribution, choosing to maintain a command line interface. For that, I followed the steps proposed by the Linux From Scratch project. The result was Netuno OS, an operating system based on the 2.6 series Linux kernel, standard tools and utilities. There are no sources other than those available for the packages used, so a repository had not been created at the time. What was left of it was an installation image of the system, approximately 192 Mb, dated 2012 and updated in 2014. At the moment, I also developed some kernel modules to study the interfaces and use of the `/proc` directory.

- Shell script:

– **frebsd-config | 2022-currently**

- \* The project relies on a shell script designed to automate the installation of various packages after installing FreeBSD. By default, installing FreeBSD does not install graphics and network drivers, as well as GNU utilities and a GUI. The script aims to automate network and graphics configuration, ask the user to choose one of several graphical environments to install and install GNU tools, such as `bash` and `nano`, for example.

– **Run Ancient UNIX | 2022-currently**

- \* This project/repository aims to facilitate the execution of old versions of UNIX, developed for discontinued architectures, such as PDP-11. This includes the Version 1 UNIX, Version 5 UNIX, and Version 7 UNIX historical versions. The project includes a script and a Python frontend responsible for downloading disk images of old UNIX versions, as well as preparing these images to run on modern architectures.

- Markdown:

– **osdev | 2021-currently**

- \* `osdev` is a project that aims to catalog and obtain more information about active open source operating system projects, as well as providing selected material that can help in the development of independent operating system projects. Therefore, all projects are classified according to operating system family, target architecture, whether they are available on GitHub or not, whether they are active (with commits less than 4 years old) and software license. In addition, the repository seeks to raise and organize historical material on the most used operating systems or those that revolutionized computing, such as UNIX.

– **My Resume | 2022-2023**

- \* This resume was entirely developed in Markdown and converted into PDF with the `pandoc` utility.

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## Skills

- Fluent Portuguese (native) and advanced English (C1);
- Domain of the Office package (including open source alternatives) and statistical packages (R and Prism);
- Domain of C, Java, Python, x86 Assembly, shell script (Unix-like systems), SQL (see **projects**) and Markdown;
- Familiarity with JavaScript, VisualBasic and C++;
- Domain of versioning tools, such as git (including use of the command line tool);
- Self-taught in several programming languages;

- Good communication and teamwork;
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## Interests

- Interested in computing history, emulation and preservation of historical software;
  - Operating system collector: from Version 1 Unix through 86-DOS and Windows 1.0 to Windows 11 and FreeBSD 13. Talk to me about an operating system and I'll probably have a disk, floppy or ISO image;
  - Minecraft and GhostWire: Tokyo player (2023).
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## Academic background

**2021-2023 | Master's degree in Health Sciences - Instituto René Rachou/Fiocruz Minas - Belo Horizonte, Brazil**

- Master's degree in Health Sciences at IRR/Fundação Oswaldo Cruz;

**2016-2020 | Graduation in Biological Sciences (Biology) - Universidade Federal de Minas Gerais - Belo Horizonte, Brazil**

- Graduation in Biological Sciences (Biology) with emphasis in Biotechnology and Health;

**2011-2023 | High school with computer technician - Escola Técnica Vital Brasil - Belo Horizonte, Brazil**

- Technical formation for developers;
  - Contact with Pascal, C, HTML/CSS, SQL, Java and VisualBasic, in addition to disciplines related to hardware and robotics.
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## Portfolio and contact (click to access)

- [GitHub](#)
  - [LinkedIn](#)
  - [LinkTree](#)
  - [Twitter](#)
  - [Instagram](#)
  - [Online CV](#)
  - [Currículo Lattes \(Brazil\)](#)
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This resume was built entirely in Markdown.