

# Vinícius de Souza Mayrink

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## EDUCATION

**Information Systems** Belo Horizonte, Brazil  
Bachelor 2021 – 2024

- Pontifícia Universidade Católica de Minas Gerais (PUC-MG)

**Computer Networks** Belo Horizonte, Brazil  
Technical Course 2016 – 2018

- Centro Federal de Educação Tecnológica de Minas Gerais (CEFET-MG)

## EMPLOYMENT HISTORY

**Teknisa** Belo Horizonte, Brazil  
Junior Dev 2021 – 2023

- Involvement in development team management
- Participation in the implementation of payroll and employee time tracking systems
- Vue, Angular, PHP, and Oracle

**Teknisa** Belo Horizonte  
Trainee Dev 2020 – 2021

- Creation and maintenance of payroll and employee time tracking systems of internal employees
- Participation in the implementation of these systems for external clients
- Vue, Angular, PHP and Oracle

**Teknisa** Belo Horizonte, Brazil  
Programming Internship 2019 – 2020

- Direct involvement in the development of corporate legacy systems
- Vue, Angular, PHP and Oracle

## SKILLS

🔗 CI/CD · Docker · Jenkins  
Java · NodeJS · Python · PHP  
TensorFlow · Transformers  
Git · Linux

🗣️ English · proficient  
Portuguese · native

## INTERESTS

DATA Data Science  
Transformers  
Machine Learning  
Scikit-learn  
LookerStudio  
Seaborn  
SQL  
TensorFlow

DEVOPS Linux  
Bash scrips  
Docker  
Kubernetes  
Cloud  
Ansible  
CI/CD  
Git

## PERSONAL PROJECTS

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### Restaurant Integration API

Project

App

2024

- REST API responsible for controlling the storage and retrieval of restaurant information. This API aims to centralize information related to restaurant orders in one place, providing webhooks so that other systems can make decisions based on order activity. Koyeb is used as the production platform for the API and for the database. The database used is a PostgreSQL instance, also hosted on Koyeb. A migration structure has been implemented to control the versions of the entities.
- Python, flask, REST API, GitHub, Microservices, SQLAlchemy
- [github.com/restaurant-api](https://github.com/restaurant-api)

### Traffic Accident Analysis in Minas Gerais

Project

Data Analysis

2024

- Data analysis on traffic accidents that occurred in the state of "Minas Gerais", Brazil. The data source is located on Portal de Dados Abertos do Estado de Minas Gerais website. The data collected spans from 2010 to 2024. City locations were obtained from the geoinfo GitHub repository. Other data source used was Dados abertos da Policia Rodoviaria Federal. The purpose of this study is to provide insights for future improvements to traffic legislation, in order to make it safer.
- Python, pandas, Matplotlib, Data Analysis, Data Science, Tableau
- Traffic Accident Analysis on Federal Highways in Minas Gerais (Public Tableau)
- Fatal Traffic Accident Analysis in Minas Gerais (Public Tableau)
- [github.com/traffic-accidents-analysis-mg](https://github.com/traffic-accidents-analysis-mg)

### Sentiment Analysis in Portuguese Sentences

Project

App

2024

- This project aims at analyzing and predicting sentiments associated with texts written in the Portuguese language through NLP. This initiative takes into account the absence of similar tools in this language, as much of the research and applications focus on the English language. Technically, it is an API that returns a sentiment analysis related to certain inputs. To do this, pretrained models and tools for working with tasks related to natural language processing are used.
- Python, TensorFlow, Transformers, Flask, NLP
- [github.com/sentiment-analysis-pt](https://github.com/sentiment-analysis-pt)

## **Clocked**

App

Project

2024

- Microservices-oriented WEB application aimed at facilitating the calculation of hours worked by employees in the business environment. In its latest version, it features a user interface built with Vue.js and a Java backend, using the Spring Boot framework. Each of the mentioned components has its own repository and CI/CD automations, available on GitHub
- Java, API REST, Spring Boot, JUnit, Microservices
- [github.com/clocked-app](https://github.com/clocked-app)
- Tableau presentation

## **Academic Success**

Data Analysis

Project

2024

- A study conducted to analyze possible causes of school dropout rates in elementary education in Brazil. Data from the National Institute for Educational Studies and Research (INEP) regarding students' approval and failure rates across the country were gathered, and a Business Intelligence (BI) report was generated to display the distribution of the highest rates based on different locations, with varying levels of visualization.
- BI, Análise de Dados, Google Big Query
- BI Report built with BigQuery

## **Doar Digital API**

App

Project

2023

- REST API responsible for managing information on donations of digital equipment. Through it, it's possible to register equipment for collection and list donations made. It was created with the context of the need for integration between PUC-MG and the Beira Linha project. This API was built using NodeJS and Koa.js. The application expects a PostgreSQL database
- Node, Koa.js, PostgreSQL, REST API
- [github.com/doardigital/api](https://github.com/doardigital/api)

## SPECIALIZATIONS

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### **Mathematics for Machine Learning and Data Science**

DeepLearning.AI

Specialization

2024

- Professional specialization aiming to study the analytical optimization of different types of functions commonly used in machine learning using properties of derivatives and gradients. Other several topics covered are:
  - Use of gradient descent in neural networks with different activation and cost functions
  - Visual and intuitive understanding of the properties of commonly used probability distributions in machine learning and data science
  - Performance assessment of machine learning models using interval estimates and margin of errors
- Calculus, Linear Algebra, Probability and Statistics, Linear Equations, Function Optimizations, Derivatives and Gradients, Probability Distributions, Python, Data Science, Exploratory Data Analysis (EDA), Machine Learning Models

### **IBM Data Science**

IBM

Specialization

2024

- In this Professional Certificate, learners developed and honed hands-on skills in Data Science and Machine Learning. Learners started with an orientation of Data Science and its Methodology, became familiar and used a variety of data science tools, learned Python and SQL, performed Data Visualization and Analysis, and created Machine Learning models. In the process they completed several labs and assignments on the cloud including a Capstone Project at the end to apply and demonstrate their knowledge and skills.
- Python, SQL, scikit-learn, Matplotlib, Plotly, Seaborn, Data Science, Exploratory Data Analysis (EDA), Machine Learning Models

### **Google Advanced Data Analytics**

Google

Specialization

2024

- “Those who earn the Google Advanced Data Analytics Certificate have completed seven courses that include hands-on, practice-based assessments and are designed to prepare them for advanced roles in data analytics and entry-level roles in data science. They are competent in exploring large datasets, applying data analysis techniques, and building models to extract insights. They are also competent in machine learning, predictive modeling, and statistics.”
- Python, Data Analysis, Data Science, Exploratory Data Analysis (EDA), Machine Learning Models, Tableau, Linear and Logistic Regression Models, Statistical hypothesis test, Decision Tree

- In this Professional Certificate, learners developed essential knowledge and skills to perform the many tasks in an entry-level DevOps practitioner role. By completing over a dozen courses and projects in the program, the earner of this Professional Certificate has demonstrated a firm grasp and practical experience to:
  - Adopt a DevOps mindset in Software Engineering using Agile and Scrum methodologies and Cloud Native tools and technologies
  - Automate tasks using Shell scripts
  - Use collaborative coding platforms like GitHub
  - Compose applications using Microservices
  - Deploy them using Containers (Docker/Kubernetes/OpenShift) & Serverless technologies
  - Employ tools for Automation, Continuous Integration (CI) and Continuous Development (CD).
- DevOps, DevSecOps, GitOps, Cloud, Docker, Kubernetes, OpenShift, Software Engineering, Python, Jenkins, CI/CD, Microservices, Shell, Prometheus, Grafana

## COURSES

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### **Python for Data Science, AI & Development**

IBM

Course

2024

- Python for Data Science and Software Development; Logic Variables, Data Structures, Branching, Loops, Functions, Objects & Classes; Python libraries such as Pandas & Numpy; Webscraping with Beautiful Soup
- Python, Data Science, Data Analysis, Numpy, Pandas

### **Go Beyond the Numbers: Translate Data into Insights**

Google

Course

2024

- Leveraging the power of Exploratory Data Analysis (EDA) to unlock hidden patterns and trends within your raw data Using the versatility of Python to delve into your unprocessed data, identifying potential issues and preparing it for analysis; Benefits of structuring and cleaning data, ensuring the foundation for accurate and insightful analysis; Creation of compelling data visualizations using Tableau
- Python, Data Science, Data Analysis, Numpy, Pandas

### **Operations with AWS - Level 3**

Cloud Academy

Course

2024

- Application source control, CI/CD, deployment pipeline and deployment rollbacks using AWS tools
- AWS CodeCommit, AWS CodeBuild, AWS CodePipeline, AWS CodeDeploy, AWS EC2

### **Developing AI Applications with Python and Flask**

IBM

Course

2023

- Steps and processes involved in creating a Python application including the application development lifecycle; Python modules, Unit tests, and package applications while ensuring the PEP8 coding best practices; Deploy of an AI-based application onto a web server using IBM Watson AI Libraries and Flask
- Python, Flask, AI, CI

### **Application Development using Microservices and Serverless**

IBM

Course

2023

- Microservices versus monolithic architecture; Creation and deploy of microservices; API documentation
- Microservices, IBM Cloud, Docker, AWS Lambda, Serverless

## **Continuous Integration and Continuous Delivery (CI/CD)**

Course

IBM

2023

- CI/CD overview; Integration and delivery automation pipelines; Local and cloud tools for automation; Describing and storing infrastructure as code
- Kubernetes, Jenkins, OpenShift, Continuous Integration (CI), Continuous Delivery (CD), GitOps, DevOps, Docker, Infrastructure as Code (IaC), GitHub, Tekton

## **Application Security for Developers and DevOps Professionals**

Course

IBM

2023

- Development of applications using security by design principles; perform defensive coding following OWASP principles; Golden Signals; Tools for monitoring and troubleshooting; and test monitoring in action with Prometheus and Grafana
- Prometheus, Grafana, DevSecOps, SonarQube, OpenSSL, OWASP ZAP

## **Monitoring and Observability for Development and DevOps**

Course

IBM

2023

- Logging with telemetry using OpenTelemetry and tracing using Kubernetes; Pillars of observability, cloud native observability, and types of sampling
- Instana, Prometheus, Grafana, CloudVyzor, Mezmo, OpenTelemetry, Kubernetes

## **Building and Deploying a Cloud Native Application**

Course

Cloud Academy

2024

- Implementation and deployment of a cloud native application using DevOps concepts and best practices. A front-end based in React and a back-end written in Go, using Gorilla Mux, were developed and deployed using Kubernetes and AWS EC2. Cilium CNI was used to establish network security policies
- Docker, Kubernetes, DevOps, AWS EC2, Cilium CNI, Nginx Ingress Controller, Microservices

## **DevSecOps - Build and Release Secure Software Faster**

Course

Cloud Academy

2024

- Creating a stable and secure pipeline for application development, testing, and deployment. Using Kubernetes clusters and Kubernetes network plugins such as Istio and Cilium CNI to deploy container-based applications, following Kubernetes patterns. Protecting software against vulnerabilities with Gauntlt and OWASP principles. Establishing a continuous monitoring environment using Kubernetes Dashboard, Prometheus, and Grafana
- DevOps, DevSecOps, Docker, Kubernetes, Helm, Microservices, Prometheus, Grafana

## **Combining DevOps Tools at Scale**

Course

Cloud Academy  
2024

- Crafting a Jenkins CI/CD pipeline leveraging containerization, static code analysis, artifactory integration and application monitoring. An AWS infrastructure was provisioned to develop the components
- Jenkins, Jenkins Plugins and Tools, Docker, Continuous Integration (CI), Continuous Delivery (CD), SonarQube, Splunk, Jira, JFrog Artifactory

## **DevOps Capstone Project**

Course

IBM  
2024

- Understandment DevOps culture and Agile development practices; User requirements, user stories, creation and execution of sprint plans; Execution of test cases and during various stages of its lifecycle; CI/CD tools to update and deploy; Development of an application composed of several microservices and employ containers and serverless for running apps in Cloud
- DevOps, Agile, Microservices, Kubernetes, OpenShift, Test Driven Development, Docker, GitHub

## **Introduction to Containers w/ Docker, Kubernetes & OpenShift**

Course

IBM  
2024

- Set up of an entire lifecycle-based container management system using kubernetes and containers; Development of cloud native applications; Configuration of resources such as pods, services, replicaset, and others in a declarative way via YAML files
- Docker, Kubernetes, OpenShift, Istio

## **Introduction to Test and Behavior Driven Development**

Course

IBM  
2024

- Importance of testing; Unit tests with test assertions and test fixtures; Unit testing through advanced TDD methods including coverage reports, factories, fakes, and mock objects; BDD scenarios using Gherkin syntax
- TDD, BDD, Python, Nose, Test Coverage, Mocking, Behave, Selenium

## **Hands-on Introduction to Linux Commands and Shell Scripting**

Course

IBM  
2023

- Linux architecture and common Linux distributions; Update and install software on a Linux system; Development of shell scripts using Linux commands, environment variables, pipes, and filters; Common informational, file, content, navigational, compression, and networking commands in Bash shell
- Bash, Linux, Shell Scripts



## **DevOps Fundamentals**

Course

Cloud Academy

2023

- Basic DevOps Concepts and responsibilities
- Amazon AWS, Terraform, Jira

## **Introduction to DevOps**

Course

IBM

2023

- DevOps Concepts
- Agile, Continuous Integration (CI), Continuous Delivery (CD), Test Driven Development (TDD)

## **UNICEF SAMSUNG**

Hackaton

São Paulo, Brazil

2018

- Organized by SOFTEX (Associação para Promoção da Excelência do Software Brasileiro)
- Partnership with UNICEF and SAMSUNG.

## **Converge**

Internship

Belo Horizonte, Brazil

2018

- Web Developer
- Angular 6, ASP.NET CORE, SQL SERVER EXPRESS 2014, Visual Studio 2017

## **IX FÓRUM REGIONAL**

Forum

Belo Horizonte, Brazil

2018

- Event that encouraged dialogue about Internet exchange points