

# Gabriel Carvalho Silva

umgabrielcarvalho@gmail.com | linkedin.com/in/umgabrielcarvalho | github.com/notmilhouse |  
umgabrielcarvalho.me  
Brazilian, 24 years old

## Professional Summary

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Skilled Software Engineer with expertise in Java, Kotlin, Python, and modern frameworks including Spring Boot, Kafka, and FastAPI. Proven track record in microservices architecture, event-driven systems, and full-stack development. Experience with ADAS/AV solutions, data engineering, and customer-facing technical roles. Known for proactive collaboration and growth mindset, interested in advancing to software architect role.

## Technical Skills

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**Programming Languages:** Java, Kotlin, Python, C/C++, SQL, Shell, HTML, CSS, JavaScript, Golang, C#

**Frameworks & Libraries:** Spring Boot, Kafka, FastAPI, Flask, Vue.js, SQLAlchemy, Hibernate, Pandas

**Databases:** PostgreSQL, ScyllaDB, Redis, NoSQL

**Tools & Technologies:** Git, Docker, Maven, Gradle, Flyway, AWS, Linux, CI/CD, MQTT, Avro

**Architecture:** Microservices, Domain-Driven Design, Event-Driven Architectures, Distributed Systems, IoT

**Languages:** English (C2), Portuguese (Native), Spanish (A2), German (A1)

## Professional Experience

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### Associate Application Engineer

Foretellix — Remote

Oct 2024 – Present

- Customer-facing engineering and requirements analysis (pre-sales/post-sales) of OpenScenario2.0 based ADAS/AV VnV solution
- Provide custom infrastructure for client data integration for ADAS (AEB, ACC, ALKS) and AV applications using SIL, HIL, real recorded data paradigms
- Integrate industry-standard platforms (Carla) within hyper-scale cloud solutions (AWS)
- Collaborate with major automotive players (Volvo, Nvidia, Denso, Valeo) across North America, EU, and APAC
- **Tech Stack:** ASAM OpenScenario 2, C++, Python, Shell, AWS

### Data Engineer Intern

IEA - USP RP — Ribeirão Preto, Brazil

May 2024 – Oct 2024

- Refactored database design, reducing query times from 5+ minutes to under 2 seconds
- Built custom dashboards for educational data visualization and insights
- Set up on-premises service with Docker and implemented CI/CD pipelines
- **Tech Stack:** Linux, Shell, Python, R, PostgreSQL, Shiny, JavaScript, HTML, CSS, Leaflet, Plotly

### Data Engineer Intern

BRICS - TU Braunschweig — Germany

Aug 2023 – Feb 2024

- Developed pipeline abstraction framework with domain-specific language using Pandas and Python libraries
- Enabled data scientists to focus on domain analysis rather than programming details
- **Tech Stack:** Python

### Full Stack Developer Intern

PLRI - TU Braunschweig — Germany

Aug 2023 – Feb 2024

- Developed full-stack application with Python (FastAPI) backend, PostgreSQL database, Vue.js web frontend, and Android app for AI-aided horseshoe image diagnosis
- **Tech Stack:** Python, PostgreSQL, JavaScript, Vue, FastAPI, SQLAlchemy

- Implemented error mapping library with domain-specific language (DSL) for better error handling across microservices
- Developed and refactored microservices for high-scale payment services
- Contributed to architectural discussions and implemented Kafka solutions for high throughput services
- **Tech Stack:** Kotlin, Java, Golang, Spring Boot, Kafka, AWS, Hibernate, Flyway, Maven, Gradle, PostgreSQL, ScyllaDB, Redis

## Education

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### **Bachelor of Computer Science**

**Universidade de São Paulo (USP)**

**Mar 2020 – Dec 2025 (Expected)**

Focus on distributed systems, software engineering, and IoT

### **Exchange Student**

**Technische Universität Braunschweig — Germany**

**Mar 2023 – Mar 2024**

International academic exchange program

## Key Projects

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### **Bachelor Thesis - IoT Smart Scale**

**USP — Hybrid**

**Mar 2025 – Dec 2025 (Ongoing)**

- Developing IoT Smart Scale proof of concept for Smart Homes with scalable architecture
- Implementation includes MQTT broker, API/worker services, NoSQL database, and face recognition
- **Tech Stack:** ESP32, Raspberry Pi, Mosquitto, Golang, ScyllaDB, Docker, Avro

## Leadership & Contributions

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**Computer Science Academic League** - Founder and Active Member (May 2024 – Present)

**Hypatia** - Algebra Tutor (Mar 2025 – Present)

**Octobit Junior** - Support Counselor, Former Head of Projects (Jul 2024 – Present)

**GEMPRO** - Co-Founder, Programming Marathon Study Group (2020 – 2021)

**Computer Science Week** - President and Partner Relations (2020 – 2021)

**CRel (MUN Club)** - Head of Academic Activities (2015 – 2017)

**Academic Tutoring** - Mathematics and Informatics tutor (2015 – 2017)

## Certifications & Achievements

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TOEFL iBT Score: 113/120 | High School Programming Competition: 2nd Place | Model United Nations: Best Delegate, 3 Honorable Mentions, 1 Oral Mention

## References

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**Mr. Cristiano Hahn** - Senior Software Engineer at iFood - cristianohahn.contato@gmail.com