

# Erik Pellizzon

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## Work Experience

### Freelancer

Padua, Italy

SOFTWARE ENGINEER (REMOTE)

Nov 2023 - Present

- Working as an independent software engineer on the **backend** part of SaaS applications.
- Reversed APIs from various external websites and implemented custom clients in **Go**, to build an **aggregator** of external financial **forex data sources**.
- **Improved** the code readability of **Go microservices** that exposed public REST APIs, through a refactoring of the old codebase that increased request handling **performance** by 20% on average.
- **Integrated 20+ external payment systems** and SMS API services within the current **Go** codebase of various customers, to allow users to pay and receive notifications.

### GardaWorld Security - Crisis24

Konstanz, Germany

SOFTWARE ENGINEER (REMOTE)

Sep 2022 - Nov 2023

- Worked on a SaaS platform in the **Travel Risk Management** sector, which enables employees to stay safe while traveling, using sensitive data such as their location to send personalized security alerts. Crisis24 services are used by 50% of Fortune 500 companies.
- Improved the **Ruby on Rails** application backend (+ **Go microservices**) by fixing bugs and adding new features, modifying the **Ember.js** frontend when necessary.
- Reduced by 15% the average response time of internal **Ruby** microservices & exposed **GraphQL APIs** used by third-party software, by optimizing the **Redis** caching layer for the production environment on **Google Cloud**.
- Replaced a dataset that hadn't been updated in 10 years with a **Python** project created from scratch that dynamically builds an updated country border dataset using OpenStreetMap data and the Shapely library, saving the result in a **PostgreSQL** (with PostGIS) database.

### Open Source Developer

VOLUNTEER

May 2020 - Present

- Volunteered to improve publicly available software projects on Github, improving both my software development and team collaboration skills.
- Fixed bugs found in public projects that used the **Go** programming language.
- **Contributed** to the development of the **Go language itself** by improving the performance of the standard library of the Go programming language (specifically the base64 encoding part), starting with Go version 1.20.

## Skills

**Languages** Go, Python, C, Java

**Database** SQL, PostgreSQL, Redis, Apache Cassandra, MongoDB

**Backend** Distributed Systems, Microservices, Git, Docker, Google Cloud Platform, AWS

## Projects

### Go Programming Language

Open Source Contributor

- Made **6 proposals** for code changes and 3 of them were accepted by the project maintainers and are now part of the Go compiler code.
- One of these changes is an optimization that **increased encoder initialization performance for Base32 and Base64 by 40%** by changing memory initialization implementation.

### PiSquared

- Created a Telegram bot using **Go** that asks the user a question and then uses Natural Language Processing multilingual **text similarity** to calculate the **percentage of correctness**, based on a predefined answer.
- The project was praised by the author of the machine learning library used, for the creativity of the implementation.
- Obtained a job because of an endorsement received through this project.

### Serializer to Binary Object Representation

- Created from scratch a **MessagePack serializer** (JSON-compatible binary format) that accepts native **Go** values as input and converts them correctly using runtime **reflection**.
- Made the code easy to read, reaching **95% code coverage in tests**.

## Education

### Technical Institute Francesco Severi

Padova, Italy

A.S. COMPUTER SCIENCE

- Software Engineering & Programming (Java, C), Concurrent Programming (Java), Algorithms & Data Structures (Java)
- Web Development - Backend (PHP, MySQL) & Frontend (HTML, CSS, Javascript)
- Operating Systems, Computer Networks, Distributed Systems (Designing Data-Intensive Applications)

## Certifications

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2022	<u>Apache Cassandra 3 Associate Developer (DataStax)</u>
2022	<u>MongoDB 5.0 Associate Developer</u>
2021	<u>Google Cloud Developer Specialization</u>