Erik Pellizzon

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Work Experience

Revpool
Warrington, UK
SOFTWARE ENGINEER (REMOTE)
Nov 2023 - Present

- Worked on the **software infrastructure** that allows professional sports bettors to beat the theory of efficient markets applied to **sports betting**, placing **automated bets** on hundreds of websites without having to manage the complexity.
- Reversed APIs from various external sites and implemented clients in **Go** that follow a standard interface, to build an **aggregator** of external **data sources** into a single platform.
- Worked on a globally distributed **private proxy network** managed by the company and a flexible custom **job scheduler**.
- Implemented a **website scraper** in Go that perfectly emulates a browser, replicating advanced techniques such as TLS fingerprinting and HTTP/2 fingerprinting to **bypass the anti-bot** protections of popular **CDNs**.

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 by fixing tons of 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.

Skills

Languages	Go, Python, C, Java
Database	PostgreSQL, Redis, Apache Cassandra, MongoDB
Backend	Distributed Systems, Microservices, Git, Docker, Google Cloud Platform

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.

BigMetric

- Designed a distributed system to process **thousands of temperature sensor readings** and save the result into an **Apache Cassandra** database cluster, and then visualize the results using **Grafana** time series charts.
- The sensors send the temperature value every 10 seconds to various **Java Spring microservices** using **Apache Kafka**.
- Written appropriate unit and integration tests to check the correctness of results.

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

2022	Apache Cassandra 3 Associate Developer (DataStax)
2022	MongoDB 5.0 Associate Developer
2021	Google Cloud Developer Specialization