

# Frank Filho

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## Education

### Federal University of Santa Catarina

B.Sc in Computer Science

Florianópolis, Brazil

May 2022 (expected graduation)

## Work experience

### Shopify

Backend Engineer Intern

Montreal, Canada

July 2019-July 2020

Ruby, Rails, MySQL, OAuth 2, OpenID Connect, WebSockets

- Shipped user-facing feature that allows Shopify users to audit the history and security of their devices
- Worked with offensive security team to fix vulnerabilities found in Identity (Shopify's authentication service)
- Worked on a big refactor to move Shopify's authentication platform to a multi-tenant architecture
- Worked on notifying users of suspicious logins and keeping audits of those login attempts
- Improved efficiency of OpenID backchannel logout

### GCM

Backend Engineer (freelance work)

Florianópolis, Brazil

December 2018-April 2019

JavaScript, Node.js, PostgreSQL

- Developed backend and REST API of an e-commerce management platform from scratch
- Built user & store management features such as authentication, inventory control and email delivery for customers

### GETMORE

Backend Engineer

Florianópolis, Brazil

April 2016-April 2019

JavaScript, TypeScript, Node.js, PostgreSQL, MongoDB, Python, Scrapy, AWS

- Built a search engine's caching component using Node.js and Redis
- Built web scrapers and storage layer for more than 10 million products using Python, Scrapy and MongoDB
- Developed a REST API from scratch using TypeScript and PostgreSQL
- Setup infrastructure using AWS EC2, RDS, VPC and other AWS services
- Wrote integrations to external APIs, including a payment system using PayPal

## Projects

### Kiwi

[github.com/frankpf/kiwi](https://github.com/frankpf/kiwi)

Kiwi is a programming language with a bytecode interpreter. Everything from the parser to the virtual machine is hand-written. In a previous version, I used LLVM to compile to native code. It already supports functions, control flow expressions, and variables. I also built a [playground for Kiwi](#) using Docker and AWS.

### undbg

[github.com/frankpf/undbg](https://github.com/frankpf/undbg)

undbg is a debugger written in Go with support for reverse execution. While running a program, it saves all machine state, allowing the user to go back and debug in the past.

### schemats

<https://github.com/SweetIQ/schemats/pull/81>

schemats is a library that generates TypeScript interface definitions from a database. As part of my work on SafeQL (a type-safe SQL query builder), I [enhanced schemats to output information on SQL constraints](#).

## Awards

- 5th place in [Hackaflag Finals 2018](#), the largest CTF (capture the flag) competition in Latin America, with challenges on web security, reverse engineering and cryptography.
- 1st place in [Hackaflag Florianópolis 2018](#), a regional qualifier to the Hackaflag Finals.

## Skills

**Programming:** JavaScript, Ruby, Python, SQL, TypeScript, C/C++, Go, Nim

**Databases:** MySQL, PostgreSQL, MongoDB, Redis, Memcached, Elasticsearch

**Frameworks & libraries:** Express.js, Ruby on Rails, Sidekiq, StatsD, gRPC, Protobuf, LLVM

**Technologies & tools:** AWS, Docker, GCP, Datadog, Splunk