

# Evie Ciobanu

APPRENTICE FIELD MATHEMATICIAN

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## Experience

### Hasura

SENIOR SOFTWARE DEVELOPER

Full Remote

January 2021 - Present

- Worked on implementing the initial version of multi-database support for Hasura by introducing MSSQL.
- Worked on improving the performance and features of our data sources (Postgres, Citus, MSSQL, etc.).
- Dedicated effort to improving our CI and testing infrastructure.
- Spear-heading an effort to add unit tests to the existing codebase.

### ING Bank Romania

SOFTWARE DEVELOPMENT EXPERT

Bucharest, Romania

May 2020 - December 2020

- Evangelise functional programming within the organisation through in-house courses I created.
- Work on a payment engine flow (FP-Scala) based on Akka Streams.
- Implement a profunctor-based bidirectional parser using a custom bi-invariant functor library I wrote.
- Construct a data flow DSL to abstract over the concept of actors, using a profunctor-based GADT meant to keep track of each computation step.
- Introduce quickcheck, quickspec, and similar concepts within various teams in the organisation.

### Runtime Verification

SENIOR SOFTWARE DEVELOPER

Bucharest, Romania

September 2018 - April 2020

- Work on the open source prover (Haskell) Kore. Kore is the engine behind the K verification framework, which is a tool that, given the syntax and semantics of a programming language, can be used to automate formal proofs about programs.
- Some of my contributions to Kore include implementing various matching and unification algorithms to the core prover, improving the performance and get the prover unstuck, implementing primitives, debugging and finding algorithmic improvements for failing proofs (and adding tests to make sure they don't repeat), implementing a REPL interface for the prover engine.
- Work on the API and frontend for the subscription-based prover solution Firefly.
- I was in charge of creating the initial setup for Firefly using Haskell (servant) and Purescript (halogen), do Nix maintenance and setup, continuous deployment, PR branch deployment, testing, and implement features such as Github OAuth login, parsing, displaying of reports, etc.
- I was tasked to handle recruiting and training of junior Haskell Engineers. All 4 juniors hired under my supervision were able to do minor contributions to complex repositories (recursion-schemes, servant, mtl, etc.) within a week of their first day, and were able to do stand-alone features in their first few months.

### Mood Media International

DEVELOPMENT LEAD

Bucharest, Romania

August 2013 - August 2018

- Lead the development for the visuals department, dealing with the server, device and CMS sides of distributing in-store digital signage.
- Focus on the server-side development using C# Web APIs, Typescript, and SQL. Our software served tens of thousand of customers with hundreds of thousands of in-store devices across the globe.
- Lead multiple development teams across several regions.
- Coordinate with Product Owners (also across several regions).
- Lead technical and architectural decisions.
- Introduce Purescript in an attempt to improve the frontend codebase.
- Handle recruitment by searching for candidates and interviewing them.

### Teamnet International

SENIOR SOFTWARE DEVELOPER

Bucharest, Romania

July 2011 - July 2013

- Develop a cloud-based ERP-like subscription-based solution for small businesses.
- C#/ASP.NET/Javascript based solution with multiple sub-applications and ticket-based authentication.
- Core contributor to a majority of technical decisions.
- Promoted to Team Lead in early 2013.
- Handle recruitment by searching and interviewing candidates.

### Web Access

SENIOR SOFTWARE DEVELOPER

Bucharest, Romania

January 2011 - June 2011

- Project-based collaboration to optimize a CMS / news portal ahead of launch day.
- C#/ASP.NET/Javascript/SQL Server based solution.
- Managed to provide speedups up to 50x on the existing solution using a mix of code and database refactorings/improvements.

## Concept Consulting

IT CONSULTANT

Bucharest, Romania

June 2007 - November 2010

- Assess current status of the IT department and infrastructure of various companies.
- Design IT solutions for various companies including network, database, and custom software solutions.

## Spotlighting News

CO-OWNER

Bucharest, Romania

June 2007 - November 2010

- In charge of the software engineering part of the news website.
- Implement and maintain the website using PHP and MySQL such that it would sustain bursts of 100k+ viewers.

## Integra

DEVELOPER

Bucharest, Romania

May 2009 - September 2009

- Develop low-level software for managing water pumping stations.

# Skills

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### PROGRAMMING LANGUAGES

Although I am familiar and have experience with multiple programming languages (such as C#, Typescript, Javascript, C/C++), I am primarily focused on pure functional programming languages. I have also used nix and am actively using NixOS.

### Haskell

#### LIBRARIES & SKILLS

- Although not exclusively professionally, I have been using Haskell for 4 years. I am interested in both writing application code as well as libraries and abstractions.
- Some of the libraries I am familiar with include servant, lens, generic-lens, recursion-schemes, mtl, free, profunctor, megaparsec, aeson.
- I have proven the ability to teach others concepts such as functions, basic types, basic type classes, higher kinded types, functor, applicative, monad, contravariant, profunctor, bifunctor, basic lenses, basic parsing, mtl, basic GADTs, basic type families.
- While I do not do this on a daily basis, I am able to write and use code that uses complex GADTs, complex multi-param type classes with functional dependencies, polykinded types and classes, etc.
- You can see my (professional) work I did for Runtime Verification on the [Kore](#) repository.

### Purescript

#### LIBRARIES & SKILLS

- Most Haskell concepts translate pretty directly to Purescript, so I will not repeat them in this section.
- Some of the libraries I am familiar with include halogen, matryoshka, aff, affjax, variant, profunctor-lens.

### Mentoring

#### EMPOWER JUNIOR DEVELOPERS

- Mentoring junior developers and empowering peers to reach their potential has always been a very important goal of mine. I have written about this topic on my [blog](#).
- I actively try to use opportunities to give people the tools they need to solve future problems on their own, rather than solve their problem for them.
- I organised in-house courses, talks, hackathons, and presentations in order to spread the knowledge across the various companies I worked at.

# Community Activity

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## Haskell Foundation Board of Directors

MEMBER

International

May 2022 - Present

- I was recently appointed to the [HF Board](#), a board responsible for managing and setting the direction of the Haskell Foundation.

## Haskell Foundation Technical Track

MEMBER

International

October 2021 - Present

- Member of the [Haskell Foundation Tech Track](#).

## Bucharest FP Meetup Series

HOST FOR HASKELL BOOK STUDY GROUP

Bucharest, Romania

February 2019 - June 2019

- Hosted a study group for reading the Haskell Book in order to grow the local Haskell community.
- I prepared all the chapters beforehand and tried to have a go at providing my own take at explaining them, then participants would do the homework and we'd review it the next time.

## Bucharest Functional Programming Meetup Group

CO-OWNER

- Organise meetups, find guests, host events.
- Give talks on Purescript and Haskell.
- Currently on hiatus due to COVID-19.

Bucharest, Romania

May 2018 - Present

## Faculty of Mathematics and Computer Science, University of Bucharest

TEACHING ASSISTANT

- Hold Haskell laboratories at the local university for a semester.
- Guide students in understanding the practical aspects of writing Haskell. Work on exercises together.
- Help with devising and correcting the written exam / end of semester grade.

Bucharest, Romania

October 2018 - January 2019

## Presentation

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### Writing Great Tests With Haskell

Remote

FUNCTIONAL CONF

March 2022

- My upcoming talk on writing better tests in Haskell!

### A Simple HTTP Server in Haskell

Bucharest, Romania

BUCHAREST FP & SECURITY ESPRESSO JOINT MEETUP EVENT

July 2019

- Implemented a HTTP server from scratch, then reviewed audience pen-testing results and fixed the security problems.

### Composition in FP

Bucharest, Romania

BUCHAREST FP MEETUP EVENT

August 2018

- The talk is a perspective on Semigroup, Monoid, Apply, Applicative, Bind, and Monad as being strongly related: they are all about composition, differing only in .

### Purescript & Halogen

Bucharest, Romania

BUCHAREST FP MEETUP EVENT

May 2018

- The talk is a first look at Purescript and Halogen, meant to introduce people to the language and library.

### Real World Javascript

Bucharest, Romania

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE, UNIVERSITY OF BUCHAREST

May 2016

- For the web programming course, I was invited to present the current state of the Javascript ecosystem.
- I introduced Typescript as a way to minimise errors and oddities found in Javascript.

## Writing

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### eevie.ro

Personal blog

I TRY TO FIND TIME TO WRITE ON MY BLOG. I HAVEN'T DONE SO IN A WHILE, BUT HERE'S A LIST OF MY MOST SUCCESSFUL POSTS:

April 2018 - Present

- [Hire and Train Haskell Junior Developers](#), which is my response to the "Simple Haskell" movement.
- [A Curry-Howard Correspondence Example](#), where I show how the same proof from a few different perspectives: Logic, Type Theory, Category Theory, and an implementation in Haskell.
- [Functor-Of](#), showing a different encoding for Functors, which allows describing a the concept in a way that's closer to category theory.
- [How I Nix](#), where I describe the setup for my NixOS desktops and laptops.

### Content Creator

Twitch & Youtube

I HAVE PREVIOUSLY STREAMED ON TWITCH. I MOSTLY FOCUSED ON EDUCATIONAL MATERIALS AND OSS.

August 2020 - January 2021

- Weekly Podcast Sundays shows with folks from the FP community such as [Chris Penner](#) or Sandy Maguire.
- Weekly [Teaching Thursdays](#) show, teaching Purescript from first principles to a friend who has had minimal exposure to FP.