

# Marek Bernát

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## PERSONAL

**Nationality** Slovak  
**Birthdate** 10. 11. 1985

## EDUCATION

**CHARLES UNIVERSITY**  
**M.Sc. IN THEORETICAL PHYSICS**  
2012 | Prague, Czech Republic

**CHARLES UNIVERSITY**  
**B.Sc. IN PHYSICS**  
2010 | Prague, Czech Republic

## SKILLS

### PROGRAMMING LANGUAGES

Current focus

OCaml/Reason

Used in Production

Haskell • Clojure(Script)

JavaScript • C++ • PHP

Common Lisp • Java

### COMPUTER SCIENCE

Functional Programming

Algorithms & Data Structures

Grammars & Parsers

(No)SQL DBs

Machine Learning

### MATHEMATICS

Type Theory • Category Theory

Statistics & Probability

Algebraic Topology

### OTHER

Git • AWS • Emacs • Teaching

Linux Administration •  $\LaTeX$

### NATURAL LANGUAGES

**Slovak** Native

**English** Fluent

**German** Intermediate

## PROFILE

My background is in science and computing—after completing my physics degree I pursued a career in software engineering.

I think about tools that let us explore, explain, and exploit the beauty in mathematics, physics, and computation. My current focus is on building an editor for category theory.

## EXPERIENCE

### PROFESSIONAL DEVELOPMENT

Jun 2018 - Present | London, Bratislava, Vienna

I have spent most of the past year by reassessing my career plans and also reading books and doing online courses in **evolutionary biology**, **economics**, **data science**, **bioinformatics**, **machine learning**, and **financial mathematics**.

### NB DHANUKA | SOFTWARE ENGINEER

Nov 2017 - May 2018 | London, UK

I maintained a **Haskell** engine for financial advice optimization using **machine learning** methods. My main job was architecting the engine and adding new features. I also performed basic data analyses to understand the results.

### METAIL LIMITED | SENIOR FULL-STACK ENGINEER

Nov 2016 - Oct 2017 | Cambridge, UK

I was responsible for implementation and maintenance of internal services using **Clojure(Script)** and **PostgreSQL**. The architecture employed microservices deployed to **AWS**.

### IXPERTA SOLUTIONS, S.R.O. | HASKELL DEVELOPER

Oct 2015 - Sep 2016 | Brno, Czech Republic

I was a member of a team responsible for design and implementation of a telephony exchange. I mainly used **Haskell** for tasks such as API design, data modelling, custom language design, creating parsers and implementing call routing logic. Other work involved some **JavaScript**, **Java**, **Python**, and **Ansible**.

### SALSITA, S.R.O. | SOFTWARE ENGINEER

May 2013 - Sep 2015 | Prague, Czech Republic

As a full-stack **JavaScript** developer I worked on both client and internal projects. I also worked on custom projects such as a text classifier prototype in **Common Lisp** or a REST server in **Clojure**.

### DEUTSCHE BORSE, A.S. | SOFTWARE ENGINEER

Nov 2012 - Jan 2013 | Prague, Czech Republic

I worked on modification of a banking transaction settlement engine subsystem which involved comprehension of legacy **C++** and **Java** code.

### BRANDS DIFFUSION, A.S. | DEVELOPER

Jun 2011 - Oct 2012 | Prague, Czech Republic

I maintained an e-commerce site with half a million of customers using **PHP** and **SQL**.

### ARCHAE, S.R.O. | DEVELOPER

Mar 2006 - Aug 2006 | Bratislava, Slovakia

I implemented mobile applications in **Python** and **Java**. Afterwards I worked on an **OpenGL** game prototype in **C++**.