RÚNAR ÓLI BJARNASON

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Summary

Software developer fluent in Haskell, Scala, and Java. Currently focused on functional programming.

Professional Experience

Runar, LLC   Boston, MA

Independent software developer   Oct 2012 - Present

Worked with a major biotech company to write a high-throughput distributed analytics system in Scala. The system continually processes large volumes of genomic research data. The details of this project are confidential.

S&P Capital IQ   Boston, MA

Senior software engineer   Jan 2010 - Oct 2012

The company makes software for market research and portfolio management. Joined the Boston team to create *Ermine*, a functional-relational programming language for processing and visualizing financial analytics.

- Wrote the initial version of the Ermine compiler and runtime in Scala.
- Implemented a typed relational calculus and compilers to various targets such as SQL.
- Created an I/O system and a foreign function interface for calling Java code from Ermine.
- Led seminars on functional programming within the company.
- Refactored existing systems in a more functional style, which resulted in more maintainable code as well as asymptotic improvements in memory usage and performance.

dynaConnections Corporation   Austin, TX

Chief software architect   May 2002 - Sep 2009

First non-founder employee. The company makes ConnectMLS, a real estate listing service.

- Responsible for overall technical design of the product.
- Worked with a small team to develop the product in Java with an Oracle database backend.
- Developed a language to specify data migrations to and from other systems.
- Administered production systems and managed software deployment without downtime.

Perceptant Corporation   Austin, TX

Software Engineer   Sep 2001 - Apr 2002

Joined the Presentation Services team during the company's incubation phase at Austin Ventures Labs. Used ASP.Net and C# to create a web UI for navigation of large multidimensional data sets from the analytics engine.

Expeditrix Corporation   Austin, TX

Software Developer   Dec 2000 - Aug 2001

Member of a small team developing *SmartClose*, a web-based transaction management system for real estate. A Java/JSP application running against a Gemstone Smalltalk OODBMS.

Farmers Association of Iceland   Reykjavík, Iceland
Programmer   Aug 1998 - Dec 2000

Joined the IT department to maintain existing PC applications written in Pascal and Delphi. Moved on to conception and implementation of new web-based solutions written in Java. Became lead developer as the department grew.

FRISK Software International   Reykjavík, Iceland
Virus Analyst   May 1996 - Aug 1998

Moved quickly from junior to senior analyst at this virus research firm. The company makes F-Prot, an antivirus suite, and licenses a virus scanner and malware database to security companies worldwide.

Education

Reykjavík Technical College   Reykjavík, Iceland
Computer Studies Programme   1993 - 1996

Publications, accepted papers, and invited talks

Rúnar Bjarnason, Paul Chiusano. *Functional Programming in Scala*. Manning Publications, New York, NY, 2013

Purely functional I/O. Talk to be given at Scala.IO, Paris, France, Oct 24-25, 2013.

Lambda: The Ultimate Dependency Injection Framework. Delivered at YOW! December Conferences in Melbourne and Brisbane, Australia, Nov 27 - Dec 6, 2012.

Stackless Scala With Free Monads. Paper presented at The Third Scala Workshop, London, UK, Apr 17, 2012.

Open-Source Projects

Ermine – a purely functional programming language with row types, for the JVM.
http://github.com/ermine-language

Machines – a library for safe, declarative, incremental input processing in Scala.
http://github.com/runarorama/scala-machines

Scalaz – A Scala library for purely functional programming.
http://github.com/scalaz

Functional Java – A library for functional programming and actor-based concurrency in Java.
https://github.com/functionaljava/

Work Status

Icelandic citizen. Permanent U.S. resident (Green Card). Authorized to work in the United States, and in all 31 member countries of the European Economic Area and EFTA.