Martin Carolan

📞 07713164552 ✉ martin@typesystems.co.uk

Jul 2017 - Present
Director & Consultant - Type Systems, Manchester
Scala development, team leadership and Scala training contracts:

December 2022 - December 2023
- I took a career break after 12 years working in industry. I travelled across 20 countries in 3 continents with my fiancé.
- Extended travel provided countless opportunities for growth of communication, planning and problem solving skills. And we had an epic adventure 😊.

July 2022 - December 2022
- Helped to bootstrap a greenfield authentication/identity system for SiriusXM.
- The project was implemented in Scala. It made heavy use of functional programming techniques and libraries such as Cats, Http4s, Doobie and Smithy4s.
- Also helped found the project's continuous integration, continuous deployment, devops and IaC practices. The system was deployed on AWS and used CDK (with TypeScript bindings) for IaC.

Jan 2019 - April 2022
- Contributed to the development of a novel product designed to monitor ITV's content lifecycle, overseeing processes from initial approval through to delivery, processing, and archival.
- A collection of Scala microservices aggregated data from internal/external systems, and presented exceptional behaviour to operations users in a web UI written in TypeScript using React.
- Worked closely with the operations team to ensure the product delivered incremental improvements in their efficiency.

Nov 2017 - Dec 2018
- Provided mentorship and training to a team of developers at YOOX Net-a-Porter, who were new to Scala. Worked through Underscore's "Scala with Cats" book with the team, provided code reviews and workshops regarding their new Scala project.
- Built a flexible reference/credit checking system for Goodlord, a lettings platform. We finished this project 3 weeks ahead of schedule, delivering incremental improvements that resulted in a 40% increase in productivity of the referencing team by the end of the project.
- Prototyped an integration between Apache Spark and Hyperledger Fabric for advertising agency Blis, recording the source of advertising data in a blockchain.

Jul 2017 - Nov 2017
- Team Leadership on a new infrastructure project.
- The project was deployed on AWS, and used Terraform for IaC. We prototyped integrations with HSM products. These would produce robust and verifible digital signatures.
- Development on Scala microservices that allow users to upload files to HMRC.

Keywords: Functional Programming, Scala, Cats, Http4s, Postgresql, RabbitMQ, AWS, BigQuery, Spark, Leadership, Training, Terraform, Puppet, TypeScript, Jenkins

Jun 2014 - Jul 2017
Senior Software Engineer - ITV, London
- Team Lead on the Content Delivery team, who are responsible for building a commercially enticing pipeline to get ITV's media/metadata to the right place, at the right time, in the correct format.
- Built a collection of event driven Scala micro-services, communicating with asynchronous messaging (using RabbitMQ), synchronous messaging (using HTTP and REST) and storing state in Postgresql.
- Experience with building and supporting production services on a hybrid platform, based in Amazon AWS and on-site data centres.
- Built reliable integrations between COTS systems for media archival and processing.
- Promoted the use of functional programming principles, pair programming and advocated the TypeLevel stack.
- Hired and line managed 3 smart and kind developers, helping them to grow within the organisation and build great software.

Keywords: Functional Programming, Scala, Cats, Http4s, Postgresql, RabbitMQ, AWS, Leadership, Management, Recruitment, Jenkins

Dec 2012 - Jun 2014
Software Engineer then Data Engineer - Mind Candy, London
- Worked on Scala services to capture data, enabling insight and integration across all Mind Candy games, including:
  - an eventing system to capture and interpret millions of events every day
  - an A/B Testing system, which helped optimise the features of Mind Candy games
  - an identity system, allowing users to have a common experience across multiple products, platforms and authentication methods
  - a notification system which allowed the business to send notifications in bulk to users with specific characteristics
- Worked on Payment and Subscription systems with:
  - Several reliable integrations with payment gateways, subscription and voucher providers.
  - Large emphasis on flexibility, allowing the company to experiment with offers and rewards.
  - Robust integration with Mind Candy's games for entitlements, and data/reporting systems to allow the business to make smart decisions.

Keywords: Functional Programming, Scala, Scalaz, Java, Postgresql, Big Data, RedShift, AWS, SQS, Jenkins

Jul 2010 - Dec 2012
Associate Software Engineer - Morgan Stanley, London
- Backend (Java/C++) and front-end (C#/WPF, HTML5/Ext JS4) development of a bidding/analytics system.
- Joined through the intensive Morgan Stanley Technology Analyst Programme. Received comprehensive 15 week training on Unix, C++, Java, C#, relational database systems, web development, Perl and Python along with presentation skills, project management and other professional development training.
- Development on scripts/models written in a variety of languages (C++, Perl, Java, C#), to ensure trading desks had all the tools needed to operate successfully.

Keywords: Java, C++, C#, WPF, Javascript, Python

Jun 2008 - Aug 2008
Intern Software Engineer - Morgan Stanley, London
- An internship within the Securitised Products Group at Morgan Stanley, rewriting a legacy client-facing investor report web portal in ASP.NET/C#.
- Built a batch job in Java to load a feed of house price index and credit data into a Sybase database.

Keywords: C#, .NET Framework, Java, Sybase

Education

2010	BSc Computer Science First Class with Honours University of Durham
2007	A Level History: A, Biology: B, ICT: B Fallibroome High School
2005	GCSE 7 A's (incl. English, Maths, Double Science) 3 B's. Fallibroome High School

Conference Talks

2018	Droidspeak A Scala DSL for constructing binary decision trees in a friendly way. flatMap Oslo
2016	flatMappy bird: functional flappy bird An overview of functional reactive programming, in particular Coroutines. Scala eXchange