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## Commercial Experience



JUL 2017 - PRESENT

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



Jan 2019 - Present

- Helped to build new product that tracks ITV's content from early stage sign-off through to its delivery, processing, and archival.
- A collection of Scala microservices aggregate data from other ITV systems, and present 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.



Oct 2018 - Dec 2018

- Development on Scala microservices that support HMRC for business.



Nov 2017 - Dec 2018

- Provided mentorship and training to a team of developers at YOOX Net-a-Porter, who were taking on a new Scala project. Worked through Underscore's "Scala with Cats" book with the team, provided code reviews and workshops regarding their 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.
- 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.
- Helped the team to build and open-source [Bucky](#), an AMQP library written in Scala.

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



DEC 2012 - JUN 2014

**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 run offers and offer 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

**Morgan Stanley**

JUL 2010 - DEC 2012

**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

**Morgan Stanley**

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

- BSc Computer Science
- 2010 FIRST CLASS WITH HONOURS  
University of Durham
- A Level
- 2007 HISTORY: A, BIOLOGY: B, ICT: B  
Fallibroome High School
- GCSE
- 2005 7 A's (INCL. ENGLISH, MATHS, DOUBLE SCIENCE) 3 B's.  
Fallibroome High School

## Conference Talks

- [Droidspeak](#)
- 2018 A SCALA DSL FOR CONSTRUCTING BINARY DECISION TREES IN A FRIENDLY WAY.  
flatMap Oslo
- [flatMappy bird: functional flappy bird](#)
- 2016 AN OVERVIEW OF FUNCTIONAL REACTIVE PROGRAMMING, IN PARTICULAR COROUTINES.  
Scala eXchange