MATTHEW FOWLER

Full-stack engineering leader

Experience

Broadridge Advisor Solutions   **2017-present**

Senior Director of Software Engineering and Architecture

- Led newly formed innovation lab building a cognitive financial advisor marketing recommendation platform.
- Took business concept with zero code to a fully functioning MVP in under a year.
- Developed across full stack, led code reviews and developed APIs in Scala and React components.
- Developed content categorization engine to deliver financial content to advisors with Elasticsearch.
- Led methodology for software engineering including a culture of clean code, TDD, CI and DevOps
- Built, managed and mentored teams of front-end, back-end and automated QA engineers.
- Worked with product and marketing to scope and turn requirements into a technical plan of action.
- Built automated infrastructure as code with Ansible and Terraform in AWS.

MC10   **2015-2017**

Software Architect

- Re-architected Spark system to use Akka reducing execution time 20x and reducing costs.
- Improved performance of Python machine learning algorithms in some cases over 100x.
- Developed Scala Play REST APIs, data storage and QA automation for biometric data from medical sensors.
- Led and mentored QA software engineers in integration testing practices with Python and Selenium.
- Led re-architecture of Cassandra database to object store increasing stability and reducing costs by 90%.
- Worked with data scientists on Python machine learning algorithms and mentored in best practices.

Harvard University   **2013-2015**

Lead Software Engineer

- Led development of Harvard's internal directory using Spring MVC along with Angular.
- Led development efforts for Harvard's identity API, a JSON based REST API in Spring.
- Re-architected applications up to latest technologies such as Spring Boot Data JPA and TDD practices.
- Mentored and managed a team of three giving talks on TDD and functional programming.
- Worked with business analysts to define features and scope.

Cyrus Innovation   **2011-2013**

Senior Software Engineer

- Developed full-stack web application using Spring, Java, Groovy, Hibernate and knockout.js
- Led pair programming sessions and mentored clients in TDD and agile best practices.

Genedata   **2009-2011**

Software Engineer

- Developed multi-terabyte genomics analysis software using a Java Swing frontend and RMI backend

Isobar   **2008-2009**

Software Engineer

- Developed a distributed bidding system for optimal ad placement with Java and Matlab.

Virgin Instruments   **2007-2008**

Software Engineer

- Developed an application in C# allowing users to manage mass spectrometer experiment templates.

College of Nanoscale Science and Engineering   **2004-2006**

Software Engineer

- Developed tools in .NET, Matlab and C++ for data acquisition and visualization from mass spectrometers.

Open Source Contributions

IntelliJ Scala Plugin

- Added multiple features to the Scala plugin.

Numbers.js

- Added LUP matrix decomposition and complex number methods.

Coding with Clarity

- Blog examining various topics in software engineering and functional programming.

Stack Overflow

Closed Source Contributions

RMote Roku Remote
- iOS application to control Roku over Wifi written first in Objective-C then Swift.
- Over 1 million downloads in over 180 countries and a top free iPad utility.

My Heart Rate
- iOS application written in Swift to provide instantaneous heart rate readings from camera.
- Uses digital signal processing and data smoothing algorithms to compute heart rate.

Technical Knowledge

Languages: Java 8, Scala, Groovy, Python, Javascript ES6, Objective-C, Swift, C, C++, C#
Databases: Postgres, MySql, Elasticsearch, Cassandra, CouchDB, Redis
Frameworks: Spring Boot, Play, Akka, Hibernate, Slick, Quill, React.js, Angular

Education

Northeastern University
B.S in Computer Science
Minor in mathematics