



David Barri

Scala Functional Programmer and Educator

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jaggolly 

Melbourne, Australia 

Hello, I'm David! I've been passionately programming since the age of 8, and I've been in the industry for 20 years. I've been focused exclusively on full-stack functional programming in Scala and FP for nearly 10 years now.

I've worked on a number of FP Scala projects, with a number of teams of varying abilities, and consistently find ways to provide order-of-magnitude wins for the project, and skill-up the team which both increases the morale, happiness, and efficiency of the team; and avoids key-person risk.

Key Skills

- Full-Stack Scala
- FP, recursion schemes, category theory (with lots of practical experience)
- knowing when, and how, to use FP optimally (without blindly installing ivory towers)
- can teach advanced topics in simple and clear ways (including to non-techies like business staff)
- frontend dev in JS/TS and understanding of browser environments
- UI/UX/web design
- correctness proving (eg. TLA+ and Agda)
- dev-ops, especially infrastructure automation (with Terraform) and metrics collection
- optimisation wizard

Recent Career Highlights

- making a critical process that was extremely complex and opaque, transparent and rapidly-comprehensible to both team members and end-users
- reducing unit test time from 20 min to under 1 min, and reducing the dev-cost of adding new major tests from hours to less than a minute
- reducing integration test times from 24 hr to 20 min, while reducing flakiness by over 90%
- on-the-job mentoring of a sceptical Node (JS) developer in Scala, FP, and recursion schemes to the degree that they became an enthusiastic team member on par with other FP Scala team members
- increasing server performance by over 100x, improving UX and driving hosting costs down
- writing an IndexedDB API that adheres to all constraints via successful compilation, and trivially allows for advanced encoding like compression and encryption

Experience


2020 — 2022 2017	ShipReq — Founder Full-Stack FP Scala
2013 — 2015	
2020 — 2022	Gemini Observatory — Developer Feature requests to scalajs-react, an OSS Scala frontend FP library
2018 — 2019	Telstra — Tech Lead and Developer Full-Stack FP Scala
2016	Tabcorp — Developer Backend FP Scala
2007 — 2011	Macquarie Bank — Developer, Tech Lead in later years Java, Ruby
2004 — 2006	Nanica — Developer, Translator (Japanese to English) Java, Ruby on Rails, C++
2003	NOVA Group — English Instructor
1996 — 1998	Computer Discounts — Developer, Technician C++


Education


1999 — 2002	University of Wollongong Bachelor of Computer Science Bachelor of Arts (Japanese)
1997 — 1998	Wollongong TAFE Certificate III in Computing

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Career Summary

Year	Study	Paid Employment	Self-Employment
2022	Self study	Gemini Observatory	ShipReq
2021			
2020	Self study		
2019		Telstra	
2018			ShipReq
2017			
2016		Tabcorp	
2015			
2014			
2013			
2012			Prep
2011		Macquarie Bank	
2010			
2009			
2008			
2007			
2006			
2005			
2004			
2003		NOVA Group	
2002	University		
2001			
2000			
1999			
1998	High School & TAFE	Computer Discounts	
1997			
1996	High School		
1995			
1994			
1993			

Essays

- [2021] Compilers are hard
- [2020] Scala, React, and SSR (part 2)
- [2020] Scala, React, and SSR (part 1)
- [2018] Enforcing rules at compile-time: an example
- [2017] Practical Awesome Recursion - Ch 02: Catamorphisms
- [2017] Practical Awesome Recursion - Ch 01: Fixpoints
- [2017] Dependently-Typed Functions
- [2016] Testing ScalaJS on Firefox & Chrome from SBT
- [2015] Zero-overhead Recursive ADT Coproducts
- [2014] An Example of Functional Programming
- [2014] A Year of Functional Programming
- [2013] Scala: Methods vs Functions
- [2013] Keyed Lenses

Talks

- [2018] Quantifiers in Programming @ Compose Melbourne
- [2017] Recursion Non-Recursively @ ScalaSyd


Open Source

The following libraries are authored and maintained by myself:

- Clear Config
- Microlibs
- Mr. Boilerplate
- Nyaya
- ScalaCSS
- scala-graal
- scalajs-benchmark
- scalajs-react (★ 1.6k stars)
- Scala Test State
- tla2json
- UnivEq
- Webapp Util
- webtamp

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References

- **Andy Britz** — Limepay
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