Lee Fowler

Java Engineer

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Links

in Lee Fowler   ▶ Lee Fowler   ○ Spring+React App   🚩 Portfolio   B Concurrency Blog

Profile

- A Java/Python developer with a Phd in Physics and 3 years experience developing materials physics software.
- Experienced working with Spring, React, PostgreSQL.
- Contributor to open source Dapr (with Go) and Symphy (with React and Rust). I write concurrent specs in TLA+ for projects like DMAIL (Internet Computer).
- Teach Memory Ordering on Youtube in **Rust** - **link** and maintain a blog called Concurrency Corner about memory and compilers.

Skills

Languages	Frameworks	Tools/Libraries	Systems
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Rust, Java, Go, Python, TLA+	Spring, React, Flask	Pandas, SKLearn, Docker	Zookeeper, Internet Computer, Kubernetes

Projects

DMAIL	**Dapr**	**Symphy Blockchain NFTs**
Internet Computer Blockchain Email	Side-Car pattern	Classical Music instruments on the IC blockchain, purchasable as NFTs.
Wrote the design spec for the smtp server and blockchain smart contract to be fail safe	Contributed to the rich error handling for Dapr in accordance with Google recommendations for error handling.	Rust, Motoko, Javascript
TLA+	Golang	

Experience

Private
Open source developer
January 2023 - Present
Remote

Contracted contributor to Blockchain and Social media software:

- Automated data analysis for clients in sales and media - saves 38hours/wk - **Python**
- Added TLA+ spec for SMTP Rust server for the DMAIL project (**link**) - **Mathematics & TLA+**
- Added rich error handling to the Dapr project in Go as per gRPC style (**link**) - **Golang**

Thermo-Calc Software AB
Software Developer
May 2021 - May 2024
Solna, Sweden

Development of physics calculations for materials simulation - **Java, Python, Jenkins, Docker**

- I increased performance dramatically with memory leak fixes and reduced memory usage requirements on end-users.
- I created mocking tests to catch developer errors upon code commit.
- I developed probability distribution calculations for particle size predictions in materials.

Uppsala University
Researcher and Lecturer/Tutor
Sept 2015 - Dec 2019
Uppsala, Sweden

Completed my Phd research on Biomaterials while lecturing and supervising students - **Java, Mathematics, Physics**

- I created a new class of titanium alloys: from design to bio-testing and published in this area.
- Supervised 4 Masters students, and lectured on Biomaterials.

Mediclinic Private Hospital Group
Technical Specialist
March 2015 - Aug 2015
Stellenbosch, South Africa

A supervisor role in handling large hospital datasets to optimise engineering processes (data eg. machine maintenance, staff levels, electrical and water consumption etc).

- Created data reporting strategy for optimal engineering decision making by managers.
- Trained clinical engineers and managers in data extraction from hospital processes online and in person.

Education

Kungliga Tekniska Högskola
Software Engineering
Pass
Sept 2020 - Dec 2020
Diploma

Studied an intensive course to up-skill in software development:

Key skills: Java, Spring, PostgreSQL, Docker and built apps

Uppsala University
Materials Science
Pass (4.0 GPA)
Sept 2015 - Dec 2019
PhD

Developed a new class of titanium alloys from design, then manufacture, to characterisation and finally biological testing with cells and bacteria.

- Published 4 articles with my name in the first position (main contributor) and several others as a contributor.
- Got 5 scholarships for my Phd research with grant writing.

The University of Hull
Medical Engineering
4.0 GPA (USA) or First Class Pass (UK)
Sept 2013 - Sept 2014
MSc

Completed a Masters Degree with focus on Craniosynostosis (a syndromic disease) affecting bone growth in mammals.

Key skills: Biology, FEM, Materials and Implant design, Stats, Entrepreneurship

Languages

English	Swedish	Afrikaans
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