

ANDREW WATSON

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PROFILE Experienced software engineer (Scala / Rust / TypeScript) with a Ph.D. in physics, interested in senior or principal-level 100% remote roles. U.S. citizen, Canadian permanent resident.

EXPERIENCE **Senior Consultant → Principal Consultant** | 2022-07 to present
Improving, Lunenburg, Nova Scotia, Canada [remote]

I'm a Principal Consultant developer at Improving, where I build maintainable, resilient, distributed software for clients in various industries.

- built a dependency updating system from scratch, nearly eliminating **GitLab CI** load
- successfully introduced generators and **property-based testing** to multiple projects
- I'm evangelizing best practices, like **IoC** and **making invalid states unrepresentable**
- leading **Rust** upskilling by teaching multiple in-house classes and 100+ students to date
- helping to organize and run CodeLaunch, Improving's zero-equity startup accelerator
- using **Scala**, **Akka**, **protobuf**, **Kafka**, **RDBMSes** and various observability tools regularly

Software Development Engineer III | 2020-02 to 2022-04

Workday, Ltd., Dublin, Ireland

- using **Scala**, **Akka**, **Kafka**, **Kubernetes**, and related technologies, helped to build and maintain a resilient, idempotent, asynchronous, highly-available job scheduling engine
- *worked effectively within a legacy codebase* while developing a modern replacement
- used **Gradle**, **Jira**, **IntelliJ**, **LeanKit**, **Bitbucket**, **Wavefront**, **Jenkins**, and **Confluence** daily

Software Developer → Lead Software Developer | 2017-08 to 2020-01

National Institute for Bioprocessing Research and Training (NIBRT), Dublin, Ireland

- installed and managed in-memory and distributed Apache **Hadoop** / **Spark** clusters
- drew insights from large datasets using bespoke software written in **Scala**, **Java**, and **R Shiny**, managed with Apache **Maven** and **GitHub** / **GitLab**, in an **Agile** framework

Adjunct Professor | 2015-01 to Present

La Salle University, Philadelphia, PA, USA, and Rowan University, Glassboro, NJ, USA

- lectured in-person and online physics, astrophysics, and astronomy classes
- currently teaching online introductory astronomy at Rowan University

EDUCATION **IBAT College, Dublin, Ireland** | 2018-08 to 2019-01

Advanced Diploma in Computer Programming (Advanced Java)

Temple University, Philadelphia, PA, USA | 2012-08 – 2017-05

Doctor of Philosophy, Physics | degree conferred 2017-05

Master of Science, Physics | degree conferred 2014-08

Moravian College, Bethlehem, PA, USA | 2008-08 to 2012-05

Bachelor of Science, Physics & Mathematics with Honors

**SELECTED
BLOG POSTS &
PROJECTS**

see: dev.to/awwsmm
github.com/awwsmm

101 Bash Commands and Tips for Beginners to Experts

373k views // 1.7k reactions // 64 comments [[日本語で読む](#)]

a walkthrough of common shell commands, from the simple to the complex and unusual

hello-rust-sdl2-wasm

100 GitHub stars // 82 Hacker News points

a minimal example for compiling a Rust / SDL2 project to WASM and running in the browser

How to Securely Store a Password in Java

89k views // 118 reactions // 21 comments

explains the differences between encryption and hashing and how to hash Strings in Java

rust-mvp

71k Reddit views // 154 Reddit upvotes

building an Internet of Things (IoT) minimum viable product (MVP) in Rust over the holidays

What I Learned from Bombing an Amazon Coding Assessment

69k views // 316 reactions // 40 comments

we often learn more from our failures than we do from our successes

**SELECTED
PUBLICATIONS &
PRESENTATIONS**

see: bit.ly/awwsscholar

Low-Mass Dark Matter Search with the DarkSide-50 Experiment

The DarkSide Collaboration | 2018-08-23 | Physical Review Letters

DarkSide-20k: A 20 Tonne Two-Phase LAr TPC for Direct Dark Matter Detection...

The DarkSide Collaboration | 2018-03-29 | The European Physical Journal Plus

Transverse Position Reconstruction in a Liquid Argon Time Projection Chamber using Principal Component Analysis and Multi-Dimensional Fitting

Andrew William Watson, Ph.D. Thesis | 2017-08 | ProQuest

Results from the First Use of Low Radioactivity Argon in a Dark Matter Search

The DarkSide Collaboration | 2016-04-08 | Physical Review D

Measurement of Scintillation and Ionization Yield and Scintillation Pulse Shape...

The SCENE Collaboration | 2015-05-26 | Physical Review D

FUN STUFF

Having lived in Philadelphia and Dublin for about five years each, I'm a big fan of whiskey, cheesesteaks, and talking about how great both cities are. Best donuts in Philly: Federal Donuts; best ramen in Dublin: Kokoro. Ask me about the leprechaun museum.

I'm keeping my TypeScript skills sharp by building my website (awwsmm.com) in Next.js.

In the summer of '22, my wife and I took a two-month honeymoon road trip around the U.S. We saw the Grand Canyon, Yosemite, and the world's largest bottle of ketchup.

**OTHER ONLINE
PRESENCE**

https://www.reddit.com/user/_awwsmm

<https://stackoverflow.com/users/2925434/awwsmm>

<https://mas.to/@awwsmm>

<https://bsky.app/profile/awwsmm.bsky.social>

<https://news.ycombinator.com/submitted?id=awwsmm>

RIGHT TO WORK

As a U.S. Citizen and Canadian Permanent Resident, I have the right to live and work in either country. I am currently based in Lunenburg, Nova Scotia, with no desire to relocate.