

# ANDREW WATSON

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github.com/awwsmm  
dev.to/awwsmm

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

**EXPERIENCE** **Senior Software Developer → Staff Engineer** | 2022-07 to present  
*Improving, Ottawa, Ontario, Canada*

I'm a consulting developer for Innovapost (Canada Post) on the Next-Gen Track-and-Trace effort to modernize parcel tracking across Canada.

- developing and maintaining a suite of seven **Scala** microservices built atop **Akka Clustering** sharded persistent entities, communicating via **gRPC** with **protobuf**
- streamlined GitLab **CI / CD** pipelines resulting in a *61% faster* time to release
- decoupled, parallelized, and optimized test suites for a *77% reduction* in run time
- founded and am leading a **Rust** book club to upskill colleagues in new technologies
- using **Azure, Grafana, Prometheus, Cassandra, Postgres**, and many others daily

**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
- defined and tested a complex job processing stage using the **Akka Streams DSL**
- 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 standalone 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** **101 Bash Commands and Tips for Beginners to Experts**

358k views // 1.6k reactions // 63 comments [ [日本語で読む](#) ]

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

see: [dev.to/awwsmm](https://dev.to/awwsmm)

**How to Securely Store a Password in Java**

83k views // 109 reactions // 20 comments

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

**What I Learned from Bombing an Amazon Coding Assessment**

64k views // 307 reactions // 39 comments

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

**SELECTED PUBLICATIONS & PRESENTATIONS** **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

see: [bit.ly/awwscholar](https://bit.ly/awwscholar)

**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

**First Results from the DarkSide-50 Dark Matter Experiment...**

*The DarkSide Collaboration* | 2015-04-09 | Physical Letters B

**On the Unfoldability of Prisms**

*Andrew William Watson, Undergraduate Thesis* | 2012-05 | Moravian College Reeves Library

**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 teaching myself TypeScript by rebuilding my website ([awwsmm.com](https://awwsmm.com)) using Next.js.

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

**ON THE WEB** <https://linkedin.com/in/awwsmm>

<https://dev.to/awwsmm>

<https://github.com/awwsmm>

<https://gist.github.com/awwsmm>

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

<https://bit.ly/awwscholar>