

ANDREW WATSON

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PROFILE Experienced Scala / Java / R software engineer with a Ph.D. in physics, interested in software development or research / data science roles in a global and / or remote-friendly company

EXPERIENCE **Software Development Engineer III** | 02.2020 – Present
Workday, Ltd., Dublin, Ireland

I'm currently a member of the *Scheduling* team in Workday's *Core Services*. We use Scala, Akka, Kafka, Kubernetes, and related technologies to build and maintain a resilient, asynchronous, highly-available job scheduling engine.

- implemented a new actor with **Akka Typed**, improving the job scheduler's idempotency
- defined and tested a complex job processing stage using the **Kafka Streams** DSL
- working effectively within a legacy codebase written in **Scala, Java**, and XML, squashing bugs, reimplementing over-engineered features, and solving client issues
- using **Gradle, Jira, LeanKit, Wavefront, Jenkins**, and Confluence on a daily basis

Software Developer, Lead Software Developer | 08.2017 – 01.2020
National Institute for Bioprocessing Research and Training (NIBRT), Dublin, Ireland

- lead the development of a user-friendly data analytics dashboard using **R Shiny**
- installed and maintained standalone and distributed Apache **Hadoop / Spark** clusters
- drew insights from large biopharmaceutical datasets using custom software written in **Scala, Java**, and **R** on several OSes (Windows, macOS, Linux (Debian, Raspbian, Ubuntu)), managed with Apache **Maven** and **GitHub / GitLab**, in an **Agile** framework
- made extensive use of **bash**, BSD / GNU command-line tools, **regex**, and **git**

Adjunct Professor | 01.2015 – 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 only online introductory astronomy at Rowan University

EDUCATION **IBAT College, Dublin, Ireland** | 08.2018 – 01.2019
Advanced Diploma in Computer Programming (Advanced Java)
Passed with Distinction

Temple University, Philadelphia, PA, USA | 08.2012 – 05.2017
Doctor of Philosophy, Physics | degree conferred 05.2017
Master of Science, Physics | degree conferred 08.2014

Moravian College, Bethlehem, PA, USA | 08.2008 – 05.2012
Bachelor of Science, Physics & Mathematics with Honors

SELECTED BLOG POSTS **101 Bash Commands and Tips for Beginners to Experts**

273k views // 3.9k reactions // 60 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

How to Securely Store a Password in Java

59k views // 109 reactions // 18 comments

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

What I Learned from Bombing an Amazon Coding Assessment

46k views // 297 reactions // 37 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 | 23.08.2018 | Physical Review Letters

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

The DarkSide Collaboration | 29.03.2018 | The European Physical Journal Plus

see: 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 | 08.2017 | ProQuest

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

The DarkSide Collaboration | 08.04.2016 | Physical Review D

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

The SCENE Collaboration | 26.05.2015 | Physical Review D

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

The DarkSide Collaboration | 09.04.2015 | Physical Letters B

On the Unfoldability of Prisms

Andrew William Watson, Undergraduate Thesis | 05.2012 | Moravian College Reeves Library

OTHER INTERESTS

When I'm not programming, I like to read, particularly about science and anthropology. The books I've read most recently that I would recommend are *Sapiens: A Brief History of Humankind* by Yuval Noah Harari and *Nod* by Adrian Barnes.

I've also become a bit of an Irish Whiskey connoisseur since moving to the Republic from the United States. One of my goals is to collect a bottle from every working whiskey distillery, while touring all of the distilleries with visitor centres.

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>