

# 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](https://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](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* | 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>