

ANDREW WATSON

+353 (0)83 036 0019
aww@awwsmm.com
linkedin.com/in/awwsmm
github.com/awwsmm
dev.to/awwsmm

PROFILE Experienced Java / R software engineer with a Ph.D. in physics, looking for a software development or data science position with a global and / or remote-friendly company

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

I currently manage a team of data scientists and software engineers from NIBRT and Siemens Ireland, analyzing complex biopharmaceutical datasets and developing software for user-friendly, end-to-end “big data” analytics

- 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

Research Assistant | 08.2012 – 05.2017
Temple University, Philadelphia, PA, USA

DarkSide Collaboration (direct dark matter search)

- wrote a novel **PCA-MDF** algorithm to reconstruct particle collision locations
- developed a **ray-tracing** simulation from scratch for a prototype detector

Argon Response Ionization and Scintillation (ARIS) Experiment

- conceived and designed a novel pulse-finding algorithm for waveform data
- helped to develop particle physics analysis software using **C++** and **PostgreSQL**

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**

188k views // 2.2k reactions // 53 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

23k views // 84 reactions // 16 comments

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

Installing and Running Hadoop and Spark on Windows

21k views // 30 reactions // 49 comments

a step-by-step installation guide which has proven useful to many readers

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 book I've read most recently that I would recommend is *Sapiens: A Brief History of Humankind* by Yuval Noah Harari. I'm also re-reading Jon Duckett's books on HTML/CSS and JavaScript. I've always been interested in graphic design, so I've recently begun learning Adobe Illustrator and InDesign, as well.

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

<http://dev.to/awwsmm>

<https://github.com/awwsmm>

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

<https://stackexchange.com/users/3497823/awwsmm>

<https://bit.ly/awwscholar>