



Key skills

- Operating Systems: **Linux** and Windows
- Containerisation: **Docker**
- High Performance Computing: slurm, bash scripting
- Databases: **SQL** coding and database administration, **SQLite**, **PostgreSQL**, **MySQL**
- Version control and CI: **Git**, **GitHub**, GitHub Actions, BitBucket
- \LaTeX and Beamer
- Office suites: Google, Microsoft, LibreOffice

Programming

- Compilers: Java, C++, Pascal
- Scripting: **Bash**, **Python**, **Jekyll**, Liquid, Dot JavaScript, **R**, MatLab, Processing, Tcl, PHP, Perl

Languages

- Afrikaans (fluent)
- English (fluent)
- German (intermediate)
- Tswana and Zulu (very basic)

MOOCs

- Web Application Technologies and **Django**, Coursera: University of Michigan (2022)
- Research Management and Leadership Training, Coursera: University of Colorado (2022)
- Data Analysis for Genomics (8 courses), edX Harvard (2015)
- Fundamentals of Neuroscience, parts 1 & 2, edX HarvardX (2014/5)
- Introduction to Computer Science and Programming Using Python, edX MIT

Employment

Apr. 2019 – Present **Senior Research Software Engineer** at **Newcastle University**, Newcastle-upon-Tyne

I am the training lead on our RSE team and spend 50% of my time organising and teaching on workshops. I am also working on contributing towards lesson development.

The other 50% of my time I work on research software. The projects I have been working are:

- **taVNS CloseNiT**: A Java application to develop a closed-loop technique for triggering taVNS stimulation at specific points in the respiratory cycle to determine ANS impact on measure of EEG, HRV and blood pressure.
- **FIRM2**: A reimplement of the agent based flood incident management (model in Java).
- **Learning Machines**
- **WallCap**
- **Centre for Energy Systems Integration (CESI)**

I also supervise Masters student and interns.

Apr. 2017 – Mar. 2019 **Senior Research Associate** at **Newcastle University**, Newcastle-upon-Tyne

My time was split between two projects, **ReComp** and **CEM-DIT**. For ReComp was working on a tool that allowed researchers to explore provenance of past experiment executions (pipelines). Pipelines were executed on **AWS** VMs. For CEM-DIT I was developing a software workbench in Java for visualisation and the application of policies with newly defined operators on provenance graphs.

Jan. 2015 – Mar. 2017 **Experimental Scientific Officer** at **Bioinformatics Support Unit, Newcastle University**, Newcastle-upon-Tyne

Bioinformatician in the Institute for Genetic medicine. Computationally analyse genetic data. Such analysis involves differential gene expression analysis, exon usage analysis, expression quantitative trait loci analysis and variant calling. I used computational tools such as **Bash**, Java, **Python**, **R** and several software packages, including Bioconductor, Bowtie, BWA, FastQC, GATK, IGV, samtools. I made use of the university's High Performance Computers (HPC) using slurm for scheduling

For employment before 2015 please enquire.

Education

2011 – 2015 PhD **Computational Neuroscience** at **Newcastle University**, Newcastle-upon-Tyne

Thesis: Analysis and Modelling of the PY Complex in the Pyloric Circuit of the Crab Stomatogastric Ganglion

2009 – 2010 MSc **Bioinformatics and Computational Systems Biology** at **Newcastle University**, Newcastle-upon-Tyne

Thesis: An e-Science Approach to Synthetic Biology



Funding and Awards

- 2023 RSECon Training and Education Community Award
- 2023 RSECon best poster award
- 2022 Software Sustainability Institute Fellowship
- 2019 Women's Engineering Society 100 Violents Challenge
- 2014 AASIF grant for running Spikerbox workshop
- 2012 INCF grant to visit Illinois State University
- 2011 School of Computing Science PhD Scholarship
- 2009 BBSRC MSc Scholarship

The Carpentries

- Member of the Board of Directors
- Carpentries: Glosario contributor and reviewer for Afrikaans and English.
- CarpentriesOffline: Working on creating an infrastructure for running Carpentries workshops where there is limited or no Internet access.
- SSI fellowship funding for working on CarpentriesOffline
- Instructor and Instructor Trainer
- Collaborative Lesson Development Training

Education (cont.)

- 2008 - 2009 MSc **Computing for Commerce and Industry** at **The Open University**, Milton Keynes, United Kingdom
Thesis: An investigation of incompatibility side effects of service refactoring
- 2007 Postgraduate Diploma **Computing for Commerce and Industry** at **The Open University**, Milton Keynes, United Kingdom
Relational Database Systems, User Interface Design and Development, Architectures of computing systems, Distributed applications and ecommerce
- 2006 PGC **Computing** at **The Open University**, Milton Keynes, United Kingdom
Software Engineering, Software Development for Networked Applications using Java
- 1998 - 2003 Diploma **Data Metrics** at **University of South Africa**, Milton Keynes, United Kingdom
Computer Science
- 1983 PGD **Higher Education Diploma** at **PU for CHE (now North West University)**, Potchefstroom, South Africa
- 1980-1982 **BA** at **Potchefstroom University for CHE (now North West University)**, Potchefstroom, South Africa
Tswana III, Sociology III, Zulu II, Anthropology II, Psychology I

Publications

Books

- Prof Darrel Ince (coordinator) Processing: An Introduction to the Theory and Practice of Computer Graphics - Mass writing project, Open University Press.
- Leonie Steyn and Jannetta Steyn (1993). Computer Practise and Typing Technique NIC and NSC (English title) ISBN 0-620-17241-X.

Papers

A list of my papers are available at [Google Scholar](https://scholar.google.com/citations?user=jsteyn)