Noon van der Silk

"I'm interested in learning new and interesting things, as well as helping people learn more, be happy and enjoy their lives."

Education

2013–Current **Masters of Mathematics and Statistics**, *The University of Melbourne*.
Thesis: Minimal resource topological quantum computation
Supervised by: Austin Fowler and Jan de Gier

2010–2012 **Bachelor of Science (Physics)**, *RMIT*.
Specialising in Physics and Mathematics
Received Information Security-Informatics (ISI) Research Scholarship, for work on Cayley graphs.

2001–2003 **Advanced Diploma of Information Technology**, *RMIT*.

Selected Work Experience

2011–Current **Software Engineer**, *Biarri Networks*, Melbourne.
Languages: Python, C++, F#, C#, Haskell, as well as Web (JavaScript, HTML, CSS, etc).
Technology: AWS, Docker, Linux, Windows, Jenkins, Git, Mercurial, Postgres, GIS tools, and much more.

- Delivered software to clients to support the planning and construction of fiber optic networks
- Developed design software for specific clients in Python
- Designed WPF/C# local application to aid planning
- Prototyped new functionality in Haskell
- Established development workflows, CI-builds, task management, build systems, newsletter of activities, and knowledge-sharing
- Organised charitable outreach projects for entire staff
- General feature development/bug fixes
- Been with the company during significant growth

2012–2013 **Research Assistant**, *The University of Melbourne*, Melbourne.
I worked with Austin Fowler (group website: http://www.topqec.com.au) on topological quantum computing and quantum error correction. This work transitioned into my Masters Thesis.

2007–2010 **Senior Software Engineer**, *Cosmos 21+ Group*, Melbourne.
Languages: C#, as well as Web.

- Led 2-year development of world-wide mobile food ordering platform
- Worked in a team of 3, mentored junior staff

2006–2007 **Senior Software Engineer**, *AT2*, Melbourne.
Languages: C#, ASP.NET, as well as Web.
- Development of core features for a talent management website
- Reported to CEO/CIO
- Converted codebase from ASP.NET 1.1 to 2.0

2002–2005 **Software Engineer**, *Portland House Group*, Melbourne.
Languages: C#, ASP.NET, Classic ASP, as well as Web.
- Feature development on internal funds management platform
- Development of SMS notification of stock changes directly against telco infrastructure
- Implemented analytical tools for investment scenarios (IRR, Imputation credit calculator)
- Development of double-entry general ledger tool for managing account transactions
- Developed internal tool to manage all outgoing payments, utilising encryption and hashing methods, as well as accompanying security analysis
- Integrated trade execution with several brokerage firms

Selected Open Source Contributions

2013–Current **SciRate**, *Contributor/Moderator*, https://scirate.com/.
Contributed MathJax code to support rendering of math in abstracts.
In 2015 I became a moderator, after active participation in planning strategy for the site.

2012–Current **MathSwap**, *Founder*, https://mathswap.herokuapp.com/.
A website to share snippets of maths, rendered with MathJax. Originally developed in C# and hosted privately on an AWS server, I ported it to Python+Django so it could be hosted freely on Heroku.

2015 **haskmas**, *Author*, https://github.com/silky/haskmas.
A 3D-printable Christmas tree decoration inspired by Haskell. The decoration is generated by Haskell code, using the ImplicitCAD library.

2015 **pipes-websockets**, *Author*, Hackage, https://github.com/silky/pipes-websockets.
Library to bring the Haskell websockets library into the "pipes" framework.

2015 **Super Reference**, *Author*, https://github.com/silky/super-reference.
Haskell-based website, intended to run locally, that displays BibTeX files and lets you open the PDFs that are associated with the papers.

2015 **yesod-auth-oauth2**, *Contributor*, https://github.com/thoughtbot/yesod-auth-oauth2.
Contributed bug fixes and new features.

2015 **ImplicitCAD**, *Contributor*, https://github.com/colah/ImplicitCAD.
Fixed bugs and added functionality.

2014 **clone-all, infer-upstream**, *Author*, https://github.com/silky/<lib-name>.
Small Haskell executables to perform actions against the GitHub API.

Community Involvement

2015–Current **BAM**, *Co-Organiser*, http://bamconf.com.au/.
The "Biarri Applied Maths Conference" is an annual conference that I have helped organise for the past 2 years. Duties include: Coordinating the venue and speakers, setting the agenda for the conference, and general admin.

2014 **Open Science Workshop**, *Founder*, http://openscienceworkshops.github.io/.
A workshop where researchers from various fields were brought together and shown how to use GitHub, and the Sage Math Cloud to do science "collaboratively". I organised funding, speakers, venue, helpers, food, and the agenda for the day.

2012–Current **Melbourne Maths and Science Meetup**, *Founder*.
A meetup where I invite researchers to give a 20 minute talk on their specialisation to a general audience.

2011–2015 **Quantum Lunch Melbourne**, *Founder*.
A reading group on quantum computing where we discussed papers weekly.

2005–2007 **OWASP Melbourne**, *Invited Founder*.
An organised group, hosted at Deloitte, where we had talks on web security. I was invited to start the Melbourne chapter due to my participation on various security mailing lists.

2001–Current **Security mailing lists**.
I'm a member of over 40 security mailing lists, and maintain a cursory view of the latest happenings, vulnerability announcements, new hash/encryption functions and contests.

2003–Current **Talks**.
Over the years I have given talks on: C#, Haskell, Python, Web Application Security, Cryptography, Hashing, Quantum computing, Quantum complexity theory, and Open science. Some of these talks can be found on GitHub.

Interests

- Machine Learning
- Quantum computing
- Comedy (Improv & otherwise)
- Cryptography
- Interactive learning environments
- Fashion
- Architecture
- Vim
- Category theory
- Physics