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 and Mathematics**, *RMIT*.
Information Security-Informatics Research Scholarship.

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

Relevant Work Experience

2016–Current **AI Engineer**, *Silverpond*, Melbourne.
Languages: Python, Haskell, Ruby, Web (JavaScript, HTML, CSS, etc).
Technology: AWS, Docker, Linux, Windows, TensorFlow, PyTorch, GPUs, TensorFlow.js.
- Writing, organising and running deep learning workshops
- Consulting/model development/open source work, including development and/or deployment of
  - Classical ML, computer vision (deep learning) and technical architecture
  - Open-source deep learning models in Python
  - Open-source TensorFlow Haskell library
- Project and team management, internally and externally
- Organising community events, including Responsible AI and Creative AI meet-ups
- Selected project experience:
  - Co-designed internal AI Platform-as-a-Service (PaaS) in Ruby/Python/AWS/Docker
  - Worked as part of a team to build and deploy computer vision model for person-detection in wildlife parks
  - Contributed to building and deploying computer vision models and technical architecture for building-management startup culminating in award-winning application of innovative technology
  - Public exhibitions of AI-driven creative projects (see Public Works and Exhibitions, below)

2011–2016 **Software Engineer**, *Biarri Networks*, Melbourne.
Languages: Python, C++, F#, C#, Haskell, and Web.
Technology: AWS, Docker, Linux, Windows, Jenkins, Git, Mercurial, Postgres and GIS tools.
- Developed and delivered software, primarily in Python
- Designed WPF/C# local application to aid planning
- Established development workflows (including building a project-status dashboard), CI-builds, task management, build systems, newsletter of activities, and knowledge-sharing

2012–2013 **Research Assistant**, *The University of Melbourne*, Melbourne.
- Topological quantum computing and quantum error correction group (http://www.topqec.com.au)

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

2006–2007 **Senior Software Engineer**, *AT2*, Melbourne.
Languages: C#, ASP.NET, and Web.

2002–2005 **Software Engineer**, *Portland House Group*, Melbourne.
Languages: C#, ASP.NET, Classic ASP, as well as Web.

Selected Open Source Contributions

2013–Current **SciRate**, *Primary Maintainer, Contributor, Moderator*, (Ruby), https://scirate.com/.

2016 **DeepScite**, *Author*, (Python, Haskell), https://github.com/silky/deep-scite.
A simple implementation of a recommendation system using Deep Learning techniques.

2012–Current **MathSwap**, *Founder*, (Python, Django), https://mathswap.herokuapp.com/.
A website to share snippets of maths, rendered with MathJax.

2015 **haskmas**, *Author*, (Haskell, ImplicitCAD), https://github.com/silky/haskmas.
A 3D-printable Christmas tree decoration inspired by Haskell, written in Haskell.

2015 **yesod-auth-oauth2**, *Contributor*, (Haskell), https://github.com/thoughbot/yesod-auth-oauth2.

2015 **ImplicitCAD**, *Contributor*, (Haskell), https://github.com/colah/ImplicitCAD.

Selected Community Involvement

2018 **Girl Geek Academy**, *Workshop Facilitator - Python*, https://girlgeekacademy.com/.

2017 **VALA Tech Camp**, *Workshop Facilitator - Python*, https://www.vala.org.au/.

2016-2017 **Compose Conference Melbourne**, *Founder*, http://composeconference.org.

2018-Current **Melbourne Functional Programming Association Inc.**, *Founding Member*, http://mfpai.org.au.

2017-Current **Creative AI Meetup**, *Organiser*, https://www.meetup.com/Melbourne-Creative-AI-Meetup/.

2016-2017 **Machine Learning and Artificial Intelligence Meetup**, *Co-Organiser*, https://www.meetup.com/Machine-Learning-AI-Meetup/.

2016 **Techfugees**, *Participant*, http://techfugees.com.

2014–2015 **BAM**, *Co-Organiser*, http://bamconf.com.au/.

2014 **Open Science Workshop**, *Organiser*, http://openscienceworkshops.github.io/.

2012–2016 **Melbourne Maths and Science Meetup**, *Founder*.

2011–2015 **Quantum Lunch Melbourne**, *Founder*.

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

Public Works and Exhibitions

Aug 2017 **Australian Center for Contemporary Art (ACCA)- IJCAI**, *AI Dance Booth v1*.
AI-based generative dance installation. We used a pose model to capture people on a web-cam, and trained a sequence-to-sequence model on the poses to generate a dance-response. Participants danced and saw the AI generated dance response, live!

Feb 2018 **White Night - Fashion Tech Showcase**, *AI Fashion Designer v1*.
AI Fashion Designer demonstration as part of the fashion tech showcase. The AI Fashion Designer is an interactive web application, built using DeepLearn.js (now TensorFlow.js), which allows a user to explore and design fashion items through fashion imagery.

May 2018 **Melbourne Knowledge Week**, *AI Fashion Designer v2*.
Updated AI Fashion Designer demonstration with the addition of an augmented-reality photo-shoot where participants could see how they'd look wearing the item they designed.

Aug 2018 **National Science Week**, *AI Dance Booth v2*.
Significantly revised and improved AI Dance Booth for the Humans 2.0 event. The improvements included using TensorFlow.js, MQTT, In v2 participants also had the choice of seeing a single AI dance-response, or an AI dance-crew response.

Interests

- Machine Learning
- Quantum computing
- Cryptography
- Interactive learning environments
- Collaboration
- Fashion
- Architecture
- Ethics
- Physics
- Programmatic Art

References

- By request.