

Arnu Pretorius

arnupretorius@gmail.com

EDUCATION

STELLENBOSCH UNIVERSITY

PHD IN COMPUTER SCIENCE

Apr 2017 - Present

MCOMM IN MATHEMATICAL
STATISTICS

Jan 2015 - Dec 2016 | Cum laude

BCOMM (HONS) MATHEMATICAL
STATISTICS

Jan 2014 - Dec 2014 | Cum laude

BCOMM MATHEMATICAL SCIENCES

Jan 2011 - Dec 2013

LINKS

Github:// [arnupretorius](#)

LinkedIn:// [arnupretorius](#)

CERTIFICATIONS

COURSERA

STANFORD UNIVERSITY

Machine Learning

UNIVERSITY OF WASHINGTON

Machine Learning Foundations: A
Case Study Approach

JOHNS HOPKINS UNIVERSITY

Data Science Specialization

Executive Data Science

UNIV. OF CALIFORNIA, SAN DIEGO

Learning how to learn

Introduction to Big Data

Hadoop Platform and Application

Framework

Introduction to Big Data Analytics

THE HONG KONG UNIVERSITY OF

SCIENCE AND TECHNOLOGY

HTML, CSS and JavaScript

Front-End UI Frameworks and Tools

EDX

UNIV. OF CALIFORNIA, BERKELEY

Intro to Big Data with Apache Spark

Scalable Machine Learning

PROJECTS

South African crime data visualisation and
analysis web app. [\[link\]](#)

Statistical Learning Theory: Notes and R
programming examples. [\[link\]](#)

EXPERIENCE

DEEP LEARNING INDABAX WESTERN CAPE | ORGANISER

Jan 2018 – April 2018 | Activities:

- I helped to organise the Deep Learning IndabaX held at UCT. [\[link\]](#)

PRAELEXIS | INTERN

Jan 2017 – Mar 2017 | Activities:

- My project involved developing an approach to learn profile attribute embeddings using neural networks. [\[link\]](#)

DOMINO DATA LABS | FREELANCE WRITER

Jan 2015 – Dec 2016 | Posts:

- Reproducible research in computational sciences. [\[link\]](#)
- Predicting winners of the rugby world cup. [\[link\]](#)

ZENAPTIX BIG DATA LAB | INTERN

Sep 2014 – Nov 2014 | Activities:

- I was part of a young team working on a project implementing scalable machine learning algorithms to classify auto-mobile driver behaviour.

RESEARCH

PUBLICATIONS

- Pretorius, Van Biljon, Kroon, Kamper. *Critical Initialisation and Deep Signal Propagation for Noisy Rectifier Neural Networks*. To appear in the 32nd Conference on Neural Information Processing Systems (NIPS), 2018.
- Pretorius, Kroon, Kamper. *Learning Dynamics of Linear Denoising Autoencoders*. In Proceedings of the 35th International Conference on Machine Learning (ICML), 2018. [\[link\]](#)
- Pretorius, Bierman, Steel. *A Meta-Analysis of Research in Random Forests for Classification*. In the Proceedings of the Annual Conference of the Pattern Recognition Association of South Africa (PRASA), 2016. [\[link\]](#)
- Pretorius, Bierman, Steel. *A Bias-Variance Analysis of Ensemble Learning for Classification*. In the Proceedings of the Annual Conference of the South African Statistical Association (SASA), 2016. [\[link\]](#)
- Pretorius, Parry. *Human Decision Making and Artificial Intelligence: A Comparison in the Domain of Sports Prediction*. In Proceedings of the Annual Conference of the South African Institute of Computer Scientists and Information Technologists (SAICSIT), 2016. [\[link\]](#)

THESES

- Boosting: a statistical procedure for exploiting the wisdom of crowds.
- Advances in Random Forests with Application to Classification [\[link\]](#).

AWARDS

- 2018 Google travel and conference grant for ICML.
- 2017 Centre for Artificial Intelligence Research (CAIR) PhD bursary.
- 2015 MIH (internet division of Naspers) media lab bursary.
- 2015 NRF masters innovation bursary.
- 2015 Stellenbosch Postgraduate merit bursary.
- 2014 Golden Key international honours society membership invitation.