Arnu Pretorius

arnupretorius@gmail.com

EDUCATION

STELLENBOSCH UNIVERSITY
PHD IN COMPUTER SCIENCE
Apr 2017 - Present NOW

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.