Elan van Biljon

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SUMMARY

I am a hardworking, self-motivated, determined individual who is not satisfied until he understands exactly how and why things work. I am very interested in artificial intelligence and machine learning and love learning about new concepts in the field. In my degree I am exposed to limited machine learning concepts, thus, I spend much of my free time discovering and learning new things about machine learning.

SKILLS

- Programming experience
- Computer hardware experience
- Mathematical problem solving
- Quick learner
- Focused
- Organised
- Out-of-the-box-thinker

TECHNOLOGY SUMMARY

Programming languages: Python2, Python3, Octave, JavaScript, CoffeeScript, Java, C, C++, PHP.

I took part in my first Kaggle competition in 2017, the goal being to use bank account information to predict weather a client would default on a load. My sister and I formed a team and we won 1st place.

I have taken part in the following programming competitions: Google Code Jam, The Standard Bank IT Challenge and multiple online on CodinGame and Hacker Rank competitions. Usually I partake in these as a leisure time activity but I still see a decent amount of success: usually placing in the top 10% of participants and sometimes in the top 100 participants.

I was invited to visit the Centre for High Performance Computing in Cape Town where I learned a lot about servers and factors that influence the efficiency of a computer.

Online programming community accounts: GitHub, CodinGame, Hacker Rank, OpenCV, Code Academy, LinkedIn.

EDUCATION

University of Stellenbosch: B.ENG - Electrical and Electronic Engineering – major: Informatics (machine learning) - expected 2017.
I have received distinctions in multiple courses including the following:

Computer Science E-214 – Object-Oriented Programming	Formulation and solution of problems by means of computer programming in an object-oriented set-up; principles of testing and debugging; key concepts in object orientation: abstraction, encapsulation, inheritance and polymorphism; design patterns as abstractions for the creation of reusable object oriented designs; searching and sorting algorithms; complexity theory for the analysis of algorithms; fundamental methods in the design of algorithms; dynamic data structures.
Computer Science 315 – Machine Learning	Dimension reduction techniques; machine-learning techniques based on maximum-likelihood, maximum-posterior and expectation-maximization estimates; modelling using logistic regression, Gaussian mixtures and hidden Markov models.
Engineering Mathematics – Introductory Differential and Integral Calculus,	Mathematical induction and the binomial theorem; functions; limits and continuity; derivatives and rules of differentiation; applications of

Further Differential and Integral Calculus, Differential Equations and Linear Algebra, Series and Partial Differential Equations	differentiation; the definite and indefinite integral; integration of simple functions.
	Complex numbers; transcendental functions; integration techniques; improper integrals; conic sections; polar coordinates; partial derivatives; introduction to matrices and determinants
	Ordinary differential equations of first order; linear differential equations of higher orders; Laplace transforms and applications. Matrices: linear independence, rank, eigenvalues. Laplace transforms and applications.
	Infinite series and Taylor series; Fourier series; introduction to partial differential equations; Fourier transforms.

I am continuously learning that efficient code and compilers are much more powerful than any processor. I was top of my Computer Science E-214 class and scored a mark of 152% for my final programming project. The project objective, put simply, was to create a space invaders game. We had a few requirements we had to meet along the way, for example we needed to use inheritance, have a graphical user interface, the game needed to gradually increase in difficulty, we needed to use a modular design, use principles of object orientated design, etc. It was not required but I programed an intelligent agent (or bot) to play my game. I have been awarded three certificates of excellence for my consistently high marks while in university and was the top engineering student in my student cluster for my final year.

I was one of the few undergraduate students who attended the Deep Learning Indaba in 2017. I met with and learnt from many very highly acclaimed academics and industry professionals. I learnt a lot about machine learning in general and it greatly increased my passion for machine learning.

High School: Somerset College - Somerset West, Western Cape, South Africa.   2013
I matriculated with 4 distinctions in Information Technology (Java Object Oriented Programming), Science and both Mathematics subjects. I finished top of my class in Information Technology and I was awarded Academic Honours twice for my consistently high academic results in all subjects.

WORK EXPERIENCE

Software Engineering Intern – June to August 2016
Moz – www.moz.com
Seattle, WA, USA

I was working mostly as a front-end web developer but got to work on the back end every now and again. My big project whilst I was there was to overhaul the product purchase flow on the website. I learned a lot of valuable lessons including how to work effectively on a team on a large coding project and how to communicate efficiently.

Mathematics Tutor – February to June 2016
Stellenbosch University – www.sun.ac.za
Stellenbosch, Western Cape, South Africa

I was helping students understand pure mathematics by answering questions and explaining concepts, as well as guiding them through mathematical problems. I learnt how to communicate mathematical ideas efficiently to many different types of people and it was a great opportunity to practise mathematics that I hadn't explicitly used in a while.

PERSONAL INFORMATION

I was born in Pretoria, South Africa in the 15th of September 1995. I am a male currently live in Stellenbosch, South Africa. My Hobbies include memory training, hiking, slacklining, computer and strategy based board gaming. I also competed in multiple sports at university level, including hockey, underwater hockey, water polo and squash.

COMMUNITY SERVICE

- Animal welfare work
- Community infrastructure improvement operations (putting up fences around houses in underprivileged communities, etc.)
- Student tutoring
- Teaching sports to underprivileged children
- Working with underprivileged children