

# Robert Andrew Spencer

## Curriculum Vitae 2016

### PERSONAL DATA

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DATE OF BIRTH	27 November 1994
PLACE OF BIRTH	Cape Town — South Africa
NATIONALITY:	South Africa
PHYSICAL ADDRESS	14 Ridge Way Pinelands 7405 Cape Town South Africa
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### EDUCATION

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2016	B.Sc. (Hons) (Mathematics) from <b>University of Cape Town</b>	<a href="#">— Detailed List of Marks</a>
2015	B.Sc. (Mathematics, Applied Mathematics and Physics) from <b>University of Cape Town</b> (3rd Year) <i>awarded with distinction in Applied Mathematics, Mathematics, Physics and the degree with distinction.</i>	<a href="#">— Detailed List of Marks</a>
2012	Matriculation from <b>Westerford High School</b> Online Courses from <b>MITx and EdX</b>	<a href="#">— Detailed List of Marks</a> <a href="#">— Detailed List of Marks</a>

### SCHOLARSHIPS

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2016	Innovation Scholarship	National Research Foundation	(R50 000)
	Roderick Noble Scholarship	University of Cape Town	(R5 000)
2015	Vice Chancellor's Scholarship	University of Cape Town	(R40 000)
	Science Faculty Scholarship	University of Cape Town	(R15 000)
2014	Vice Chancellor's Scholarship	University of Cape Town	(R40 000)
	Science Faculty Scholarship	University of Cape Town	(R15 000)
	Twamley December Scholarship	University of Cape Town	(R2 000)
2013	Vice Chancellor's Scholarship	University of Cape Town	(R40 000)
	Computer Science Department Entrance Scholarship	University of Cape Town	(R10 000)
	Allan Gray Orbis Scholarship		(R100 000)

## UNIVERSITY ACHIEVEMENTS

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2015	Dean's Merit List MAM3040W Class Medalist PHY3021F Class Medalist PHY3022S Class Medalist
2014	Dean's Merit List PHY2014F Class Medalist
2013	Dean's Merit List PHY1004F Class Medalist CSC1015F Top 3

## WORK EXPERIENCE — REFERENCES AVAILABLE ON REQUEST

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2016	<b>Undergraduate Mathematics Tutor</b> — <a href="#">University of Cape Town</a>
2015	<b>Software Development Intern</b> — <a href="#">Amazon Web Services</a>
2014 — Present	<b>Contract Web Developer</b> Backend system design Software development — front- and back-end Database design — <a href="#">Playwhoo.com</a>
2013	<b>Contract Software Developer</b> Metrological DBMS development — <a href="#">InterMet South Africa</a>
2013	<b>Contract Software Developer</b> System design and development Database design — Docubot Document Management Software

## COMPUTER SKILLS

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LANGUAGES	Python, C++ , SQL, HTML, css, bash, Delphi Pascal, Mathematica
OPERATING SYSTEMS	Ubuntu Linux , Microsoft Windows
APPLICATIONS	git, $\LaTeX$
OTHER	Algorithm design/analysis, system administration

## LANGUAGES

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ENGLISH:	Mother Tongue
AFRIKAANS:	Basic

## INTERESTS AND ACTIVITIES

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Recreational Programming; Piano; Archery; Terrain Simulation; Competitive Coding Training; Reading; Electronics; Hiking

## EXTRA-CURRICULAR ACHIEVEMENTS

### AND RESPONSIBILITIES — REFERENCES AVAILABLE ON REQUEST

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2016	South African International Olympiad in Informatics Team Coach South African International Olympiad in Informatics Team Leader Base leader of Electronics Base, Cederberg Senior Scout Adventure
2015	South African International Olympiad in Informatics Team Coach South African International Olympiad in Informatics Deputy Team Leader
2014	South African International Olympiad in Informatics Deputy Team Leader South African International Olympiad in Informatics Team Coach Base leader of Electronics Base, Cederberg Senior Scout Adventure Modern Mathematics International Summer School for Students
2013	South African December Mathematics Training Camp Coach
2012	Base staff of Electronics Base, Cederberg Senior Scout Adventure Western Cape Education Department Public Speaking Trophy Google Code-In
2009 — 2012	Organising committee member, COMPUTERS ROBOTS AND ELECTRONIC DESIGNS Club
2011	Publication in English Alive
2009	Founder of Westerford COMPUTERS ROBOTS AND ELECTRONIC DESIGNS Club

## HIGH SCHOOL ACHIEVEMENTS

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2012	Honikman Honour Award Academic Honours Prefect Best One Act Play Script Goldblatt Play Characterisation Award Noel Taylor Public Speaking Trophy Van Vlaanderen Trophy for Highest Marks in Physical Science and Mathematics Grade Prize for Physical Science, Advanced Programme Mathematics, English, Geography Service to COMPUTERS ROBOTICS AND ELECTRONIC DESIGNS Club (founder) Mathematics Tutor Claremont High School
2011	Best One Act Play Director Librarian

## OLYMPIADS

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2016	ACM International Collegiate Programming Contest (Thailand) Standard Bank IT Challenge NSUCRYPTO International Students' Olympiad in Cryptography	— Winning Team Western Cape Winning Student
2015	ACM International Collegiate Programming Contest (Morocco) Standard Bank IT Challenge	— Winning Team Nationally and Western Cape
2014	International Mathematics Competition (Bulgaria) Standard Bank IT Challenge	Second Prize Winning Team Western Cape
2013	International Olympiad in Informatics (Australia) International Mathematics Competition (Bulgaria) South African Tertiary Mathematics Olympiad	Bronze Medal Honourable Mention Winner (undergraduate section)
2012	International Mathematics Olympiad (Argentina) International Olympiad in Informatics (Italy) South African Computer Olympiad UCT Mathematics Competition Mintec Science Olympiad SAASTA Science Olympiad Inter-Provincial Mathematics Olympiad	Honourable Mention — Winner Winner Western Cape Representative 1st in Western Cape Western Cape A Team Captain (winners)
2011	International Mathematics Olympiad (Netherlands) South African Computer Olympiad Baltic Way Mathematics Competition (Germany) UCT Mathematics Competition Inter-Provincial Mathematics Olympiad English Olympiad	Honourable Mention Bronze — Top 10 Western Cape A Team (winners) Silver Award
2010	UCT Mathematics Competition South African Computer Olympiad Inter-Provincial Mathematics Olympiad	Top 10 Bronze Western Cape A Team (winners)
2009	South African Mathematics Olympiad South African Computer Olympiad UCT Mathematics Competition Invitational World Youth Mathematics Intercity Competition (South Africa) Inter-Provincial Mathematics Olympiad	Winner Top 20 Top 10 — Western Cape A Team (winners)
2008	UCT Mathematics Competition Inter-Provincial Mathematics Olympiad	Winner Western Cape A Team (winners)

## Bachelor of Science (Mathematics Hons)

University of Cape Town

MODULE NAME	GRADE
Topology	91
Algebra	80
Differential Geometry	100
Cryptography	93
Graph Theory	81
Homological Algebra	95
String Theory	89
Seminar	98
Project Seminar	98
Project	100
AVERAGE	93

## Third Year Bachelor of Science

University of Cape Town

COURSE CODE	COURSE NAME	GRADE	GRADE POINTS
MAM3000W	Mathematics 3000	86	72
MAM3040W	Applied Mathematics 3040	88	72
PHY3021F	Advanced Physics A	88	36
PHY3022F	Advanced Physics B	80	36
AVERAGE		86	

## Second Year Bachelor of Science

University of Cape Town

COURSE CODE	COURSE NAME	GRADE	GRADE POINTS
MAM2000W	Mathematics 2000	94	48
MAM2046W	Applied Mathematics 2046	88	48
PHY2014F	Waves, Vibrations & Electromagnets	88	24
PHY2015F	Classical & Quantum Mechanics	88	24
CSC2001F	Computer Science 2001	87	24
AVERAGE		90	

## First Year Bachelor of Science

University of Cape Town

COURSE CODE	COURSE NAME	GRADE	GRADE POINTS
MAM1000W	Mathematics 1000	90	36
MAM1019H	Fundamentals of Mathematics	97	18
MAM1043H	Modelling and Applied Computing	87	18
MAM1044H	Dynamics	100	18
PHY1004W	Matter and Interactions	96	36
CSC1015F	Computer Science 1015	96	18
CSC1016F	Computer Science 1016	91	18
AVERAGE		94	

## Online Courses

INSTITUTION	COURSE CODE	COURSE NAME	GRADE
Berkley	CS188.1x	Artificial Intellegence	92
MIT	6.002x	Circuits and Electronics	95

## Matriculation

### Westerford High School

SUBJECT	GRADE
English Home Language	82
Afrikaans First Additional Language	81
Mathematics	99
Life Orientation	87
Geography	85
Music	84
Physical Sciences	93
Mathematics: Probability, Data Handling and Geometry	90
Advanced Program Mathematics (IEB)	96
AVERAGE	89