ewald zietsman
software developer

contact

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languages

english
afrikaans

personal info

age: 32
nationality: South African
ID: 8202085009086

education

2009 – 2011
(Incomplete)

PhD Astrophysics and Space Science   University of South Africa
Thesis: A Study of Selected Magnetic Cataclysmic Variables
Relevant skills:
- Reduction and analysis of high time-resolution observations obtained using the Southern African Large Telescope (SALT)
- Computationally intensive calculations (genetic algorithms, utilising neural networks) performed using ROCKS (www.rocksclusters.org) cluster computing environment.
- Scientific observations using the High-speed polarimeter (HIPPO) on the SAAO 1.9m telescope in Sutherland
- Development of custom analysis and visualisation software using Python and related tools.

2006 – 2008

M.Sc. in Astrophysics and Space Science   University of Cape Town
Coursework: Plasma Physics, Magnetohydrodynamics, Extragalactic Astronomy, Observational Cosmology, Cataclysmic Variables
Dissertation: High-speed Photometry and Spectroscopy of the Cataclysmic Variable EC2117-54 : Exploring New Avenues With the Southern African Large Telescope

2005

B.Sc.(Hons) in Astrophysics and Space Science   University of Cape Town
Coursework: Electrodynamics, Quantum Mechanics, Stellar Atmospheres, Stellar Structure and Evolution, Computational Physics, General Relativity, Galaxies, Observational Techniques, Radio Astronomy

2001 – 2004

B.Sc. in Geomatics   University of Cape Town
Coursework: Surveying, Geographic Information Systems, Computer Science, Remote Sensing, Mathematics, Physics, Astronomy, Numerical Methods, Land Law, Engineering Surveying, Photogrammetry

experience

2011 –

Siyavula Education   Cape Town
Technical Coordinator / Software Developer
Responsibilities:
- Development and maintenance of Python software for XML document validation and conversion to publishing formats (HTML5, LaTeX, EPub 3.0, Mobile Web)
- Implementation and maintenance of LaTeX style sheets for print book PDF generation. See PDF downloads on:
  - http://www.thunderboltkids.co.za
  - http://www.everythingscience.co.za
  - http://www.everythingmaths.co.za
- Management of technical aspects of textbook translations
  Maintenance of *Transifex* server
  XML conversion to and from translation formats
- Developing proof of concept models and testing of new tools and technologies for possible inclusion in currently used processes.

2008	University of Cape Town	School of Geomatics

Lecturer

- Lectured spherical trigonometry as part of Geographical Informations Systems I (2nd year course)
- Lectured part of the Basic Surveying I course (2nd year course)

skills

Programming languages: Python, Javascript, Fortran, C/C++, LaTeX

Operating Systems: Linux (Ubuntu, Fedora Core, Mandriva), Microsoft Windows

Applications: git, scipy, matplotlib, pyfits, numpy, vpython, cython, swig, f2py, pygame, parallelpython, subversion, mercurial, Mayavi, IRAF, Gnuplot, LaTeX, OpenOffice, Scribus, GIMP

Surveying Instruments: Digital and Opto-mechanical Theodolites, Static and Real Time Kinematic GPS systems, Precise Levels, Dumpy Levels.

Astronomical Observing: 110 nights observing experience on SAAO 1.9m and SAAO 1.0m Telescopes using the SAAO High-speed Polarimeter, UCT CCD Photometer, SAAO CCD Photometer

Miscellaneous: Exceptional analytical and problem solving skills, technical software programming and design capabilities, Object oriented programming, strong verbal and written communication skills.

interests

Computing: Data analysis and visualisation, parallel and distributed computing, game design and programming, high-performance GPU computing, artificial intelligence, genetic algorithms, optimisation, Monte-Carlo simulations, 3D graphics and animation, real-time electric guitar amplifier synthesis, robotics, typesetting, web annotation, the semantic web.

Academic: Astrophysics of variable stars, astronomical observing and data reduction and analysis techniques, open-source educational software, programming literacy.

Personal: Guitars, DIY effects pedals and valve amplifiers, dragonboat racing, trail running, gaming.

references

Dr Mark Horner
Siyavula Education
mark@siyavula.com

Dr Carl Scheffler
Siyavula Education
carl@siyavula.com