Carianne Pretorius

DOCTORAL CANDIDATE · COGNITIVE STYLES IN SOFTWARE DESIGN DECISION MAKING · EINDHOVEN UNIVERSITY OF TECHNOLOGY

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Education

Doctorate Industrial Engineering

Eindhoven, The Netherlands

DEPARTMENT OF INDUSTRIAL ENGINEERING, EINDHOVEN UNIVERSITY OF TECHNOLOGY

Jan. 2017 - Present

- Promoter: Prof.Dr Fred Langerak.
- Supervisors: Dr Maryam Razavian, Dr. Katrin Eling.
- Topic: Cognitive styles in software design decision making.
- Expected graduation date: Spring 2021

Master's Degree Socio-Informatics

Stellenbosch, South Africa

DEPARTMENT OF INFORMATION SCIENCE, STELLENBOSCH UNIVERSITY

Jan. 2013 - Mar. 2016

- Full thesis Masters degree.
- Supervisor: Prof.Dr.Dr Bruce Watson.
- Topic: Procedural decision support systems for supporting wicked problems.
- Graduated *cum laude*.

Bachelor's Degree (Honours) Socio-Informatics

Stellenbosch, South Africa

DEPARTMENT OF INFORMATION SCIENCE, STELLENBOSCH UNIVERSITY

Jan. 2012 - Dec. 2012

- Part coursework and part thesis honours degree.
- Coursework: Information systems theory, Systems analysis & design, Security, Algorithmics, Web programming, Data warehousing, Software development and testing, Enterprise resource planning, Leadership and decision making, and Knowledge management.
- Mini-thesis topic: A domain-specific language for producing web mashups.
- Graduated *cum laude*.

Bachelor's Degree Socio-Informatics

Stellenbosch, South Africa

DEPARTMENT OF INFORMATION SCIENCE, STELLENBOSCH UNIVERSITY

Jan. 2009 - Dec. 2011

- Majors: Socio-Informatics and Psychology.
- Minor: Decision-Making and Value Studies.
- Others: Philosophy, Economics, and English Studies
- Received distinctions for all major subjects in final year.

Publications

1. Pretorius, C., Razavian, M., Eling, K., & Langerak, F. (In Press). *Combined Intuition and Rationality Increases Software Feature Novelty for Female Software Designers*. *IEEE Software, Special Issue on the Diversity Crisis in Software Engineering* (March/April 2021). Retrieved from: `http://dx.doi.org/10.1109/MS.2020.3043663`.

2. Pretorius, C., Razavian, M., Eling, K., & Langerak, F. (2019). *Beyond Reason: Uniting Intuition and Rationality in Software Architecture Decision Making*. Paper presented at Annual Conference of the IEEE International Conference on Software Architecture (Companion): ICSA-C 2019, Hamburg, Germany. doi: `http://dx.doi.org/10.1109/ICSA-C.2019.00056`.

3. Pretorius, C., Razavian, M., Eling, K., & Langerak, F. (2018). *Towards a Dual Processing Perspective of Software Architecture Decision Making*. Paper presented at Annual Conference of the IEEE International Conference on Software Architecture (Companion): ICSA-C 2018, Seattle, WA, USA. doi: `http://dx.doi.org/10.1109/ICSA-C.2018.00021`.

4. Pretorius, C. (2017). Exploring Procedural Decision Support Systems for Wicked Problem Resolution. *South African Computer Journal, 29*(1), 191-219. Retrieved from: `http://dx.doi.org/10.18489/sacj.v29i1.448`.

5. Pretorius, C. (2016). *Supporting Wicked Problems with Procedural Decision Support Systems*. Paper presented at Annual Conference of the South African Institute of Computer Scientists and Information Technologists: SAICSIT '16, Johannesburg, South Africa. doi: `http://dx.doi.org/10.1145/2987491.2987515`.

6. Pretorius, C. (2016). *Towards a Procedural Decision Support System for Wicked Problems* (Master's Thesis, Stellenbosch University, Stellenbosch, South Africa). Retrieved from: `http://hdl.handle.net/10019.1/98530`.

7. Parry, D. & Cowley, C*. (2015). *Maps as a Technique for Visualizing Load-Shedding Schedules*. Paper presented at Annual Conference

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*Maiden name

of the South African Institute of Computer Scientists and Information Technologists: SAICSIT '15, Stellenbosch, South Africa. doi: `http://dx.doi.org/10.1145/2815782.2815784`.

8. Barnett, R.J. & Cowley, C.*(2012). *A Ruby Domain Specific Language for Web Mashups*. Paper presented at IADIS International Conference on WWW/Internet: Madrid, Spain. Retrieved from: `http://hdl.handle.net/10019.1/84536`.

Research Interests

Human aspects of software engineering, Software design, Decision making, Cognitive styles.

Experience

Doctoral Candidate & Researcher
Eindhoven, The Netherlands

DEPARTMENT OF INDUSTRIAL ENGINEERING, EINDHOVEN UNIVERSITY OF TECHNOLOGY
Jan. 2017 - Present

- Research output: 2 conference papers published, 1 magazine/journal article in press, 1 journal article in preparation.
- (Co)supervised bachelor end projects: 5 completed.
- Teaching subjects: Business aspects of intelligent lighting, Technology entrepreneurship.

Junior Lecturer
Stellenbosch, South Africa

DEPARTMENT OF INFORMATION SCIENCE, STELLENBOSCH UNIVERSITY
Jan. 2013 - Dec. 2016

- Research output: 1 journal article, 2 conference papers (1 as first author).
- Coordinated, managed, and taught several Socio-Informatics courses (usually as responsible lecturer).
- Taught subjects as responsible lecturer: Internet technology & design; Database systems design; Technology, society, & organisation
- Other taught subjects: Information systems, Enterprise systems, Web programming with Python, and IT project management.
- Supervised honours research projects: 5 completed.
- Was part of the faculty first year committee that came up with strategies to assist vulnerable first year students.
- Acted as a member of the department assessment panel for Master's theses.

Lecturer's Assistant and Tutor
Stellenbosch, South Africa

DEPARTMENT OF INFORMATION SCIENCE, STELLENBOSCH UNIVERSITY
Feb. 2011 - Nov. 2012

- Facilitated and oversaw practical sessions for second and third year Socio-Informatics modules.
- Became head tutor in the second year due to proven tutoring and administrative skills.
- Assisted lecturers with assessment sessions and grading.
- Tutored subjects: Internet technology and design, Information systems

Tutor & Tutor Trainer
Stellenbosch, South Africa

BRIGHTSPARKZ TUTORS
Oct. 2009 - Dec. 2012

- Worked one-on-one with learners who were struggling academically with the goal of improving their comprehension of the material, along with their motivation, self-confidence, self-efficacy, and studying skills. This was done in the learners' own homes.
- Tutored subjects (Grades 4-9): Mathematics, Numeracy, English as first language, Afrikaans as additional language.
- Developed part of the material for the BrightSparkz Tutors training manual, and presented this material to the new tutors during an intensive training session.

Extracurricular Activity

PhD Representative
Eindhoven, The Netherlands

ITEM GROUP, DEPARTMENT IE&IS, EINDHOVEN UNIVERSITY OF TECHNOLOGY
Jan. 2020 - Jan 2021

- Organizing and running monthly PhD check-ins sessions
- Facilitating communication between ITEM doctoral candidates and the ITEM board.

Volunteer
Eindhoven, The Netherlands

PARKRUN
Sep. 2019 - Present

- Part of the core volunteer team that launched parkrun Netherlands, at Karpendonkse Plas parkrun, Eindhoven on 29 February 2020.
- Assisted with designing, testing, and modifying the 5km route to be used each week prior to launch.
- Facilitated weekly parkrun events (route marshalling and barcode scanning) pre-COVID-19 (we will relaunch once it is safe).

Volunteer   *Eindhoven, The Netherlands*

HOST Eindhoven   *Aug. 2018 - Present*

- Organizing bi-weekly meetings, and facilitating hospitality for Christian international students in Eindhoven.
- During COVID-19, organizing online social events, games, and talks.

Skills

Personal qualities	Inquisitive, enthusiastic, conscientious, resolute, creative, collegial, versatile.
Languages	English (native proficiency), Afrikaans (professional working proficiency), Dutch (limited working proficiency)
Academic	Quantitative research (experiments), Data analysis, Teaching, Course management, Supervision.
Software	MS Office, Qualtrics, SPSS, LaTeX.
Development	Python, MySQL, UML.
Web	HTML5, CSS3, JavaScript.

Honours & Awards

2018	**Magic WARP Award**, Best PhD research proposal at "Writing and Assessing Research Proposals" course at Department of Industrial Engineering.
2013	**Scholarship**, Harry Crossley Foundation Scholarship for master's study.
2012	**Bursary**, Stellenbosch University Merit Bursary for honours study.
2012	**Bursary**, National Research Foundation Scarce Skills Bursary for honours study.
2011	**Bursary**, Stellenbosch University Merit Bursary for undergraduate study.

Hobbies

Running, hiking, photography and editing, gardening, travelling, wine and beer tasting, fine dining, and cooking.