

Prof. Nelishia Pillay of UP believes women in IT and STEM need to be showcased more



By [Evan-Lee Courie](#)

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Professor Nelishia Pillay is the Head of the Department of Computer Science in the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria. She holds a PhD in Computer Science from the University of KwaZulu-Natal and holds the MultiChoice Joint Chair in Machine Learning and is a SARCHI Chair in Artificial Intelligence



Professor Nelishia Pillay, Head of the Department of Computer Science in the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria

Her research areas include hyper-heuristics, combinatorial optimization, genetic programming, genetic algorithms and other biologically-inspired methods.

Professor Nelishia Pillay, a problem solver at heart, shares more about her journey into computer science...

■ ***Can you tell us a bit about yourself?***

I am from a small city in KwaZulu-Natal, Pietermaritzburg. I completed my schooling and tertiary education in Pietermaritzburg. In 1998, I moved to Durban to pursue my PhD and career as a lecturer at the University of Natal. In 2004, I moved back to Pietermaritzburg as a senior lecturer at the University of Natal. I remained at the University of KwaZulu-Natal until August 2017.

In September 2017 I was appointed as a Professor and Head of Department of Computer Science at the University of Pretoria.

■ ***You're the Head of the Computer Science Department at University of Pretoria. Tell us more about your role here.***

As Head of Department I mentor both staff and students and help them attain their career goals. Computer Science is a rapidly changing field, making one of the responsibilities of a Head of Department to ensure that curricula of the degrees we offer are up to date and aligned to international standards. Achieving this also involves interaction with industry to ensure that our graduates meet the needs of a dynamic field.

The work I do as part of both the chairs is extremely exciting.

“ This gives me a platform to impart my knowledge of Artificial Intelligence to students, researchers, postgraduate students and postdocs and make them excited by Artificial Intelligence whether this is a part of research for a particular project that they are assisting with as a research assistant or conducting their own research. ”

Both these chairs gives me the opportunity to work with industry and various departments at UP to use artificial intelligence to find solutions to real-world problems which is very.

■ **Briefly tell us about your journey to where you are now.**

At school, I loved problem solving and mathematics. I was in Grade 10 when I first heard about Computer Science from my dad's business magazines. It was at this point that I decided that I wanted a career in Computer Science (instead of a Mathematics teacher which was my career choice at the time).

“ One of the reasons that I chose to major in Computer Science is that the entire area of Artificial Intelligence intrigued me ”

. When I did Artificial Intelligence in my third year of my undergraduate Computer Science degree I was disappointed in its achievements, or lack thereof, at that stage. I then pursued an Honours in Applied Mathematics, which I had enjoyed the most in my third year. However, I was able to find my way back to Computer Science and completed my Masters degree in Computer Science with my PhD in Artificial Intelligence.

“ It was during my PhD that I became really passionate about Artificial Intelligence and decided this is the area that I wanted to continue working in. ”

At that time Artificial Intelligence was thought of as being something academic and there was not much interest from colleagues and friends when I rambled on about this. It is extremely exciting to see what I feel so passionate about receiving such prominence currently and making a positive impact on the quality of everyday life worldwide.

■ **Are South African women getting enough of a chance to shine in the technology sector?**

While IT still remains a male-dominated field, there are a number of initiatives in the country to showcase women making a mark in this field and to encourage females to pursue a career in IT. For example, the Women in IT initiative by the Institute of Information Technology Professionals (IITPSA), provides bursaries and a mentorship programme to encourage women to pursue a career in IT. Another initiative is Women in Tech ZA which promotes public awareness of women working in IT with the aim of encouraging women to pursue careers in IT.

■ **How can we encourage more women to enter STEM sector? We need to showcase women in IT and STEM to promote an awareness that this is a career that women also enjoy. Female students at school who have a passion for problem-solving and analytic skills should be encouraged and given the support to follow careers in STEM.**

■ **We're living in very surreal times. With the use of technology, how do we move forward?**

As we move from one industrial revolution to the next, new technologies emerge which we must embrace in order to have a competitive edge internationally. Relevant stakeholders, namely, government, academia and industry, need to collaborate to achieve this.

“ Currently, artificial intelligence is envisaged to have a major impact on economic growth worldwide in the fourth industrial revolution. In order to cater for the skills shift that each industrial revolution brings with it, we need to promote

lifelong and sustainable learning. ”

These skills shifts must be predicted timeously and mechanisms for developing the necessary skills put in place.

■ ***How is the University of Pretoria empowering the future generation of female leaders in Tech?***

The University of Pretoria encourages and supports women to pursue leadership roles in IT. Currently, all three head of departments in the School of Information Technology are female. Via the research chairs bursaries are made available to attract female students to study Computer Science at undergraduate and postgraduate level.

■ ***What advice do you have to share with women in STEM?***

Computer Science is still a male dominated field and this is usually as a result of personal choice influenced by various experiences in life including social media, friends, family and different cultures. Whatever career choices are made the main contributing factor should be that you must feel passionate about what you're doing and look forward to doing this on a daily basis irrespective of what challenges this may bring.

■ ***As we celebrate Women's Month in South Africa. Do you have any words of encouragement for all the women out there?***

Sometimes things may feel overwhelming and unattainable. If you just believe that you can achieve what you want to, you will.

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