Dr. Ruth Jennifer Schulz

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Note: Australian citizen eligible for an E3 visa.

Cognitive scientist, robot enthusiast, and aspiring data scientist who believes that technology should work for people in their everyday lives. Study, research, and work to date has had two main focuses: developments that enable technology to be used intuitively and developments that allow technology to work with the existing infrastructure. Looking for a position that uses skills developed over years of teaching, presenting research, learning about robotics and machine learning, and developing more interesting behaviors for robots.

Professional Experience

Research Fellow, Stuttgart University, *December 2016 – August 2018*
Explored human-robot interaction through the development of a robot system for performing collaborative table-top tasks and running a series of human-robot interaction studies. video Co-lectured "*Practical Course Robotics*" (2017 and 2018), tutored "*Introduction to Robotics*" (2017), and supervised 4 Master's students and 1 Bachelor's student. Presented papers at HAI 2017. video1 video2

Research Fellow, Queensland University of Technology, *January 2014 – June 2016*
Post-doc on the Australian Research Council Discovery Project "*Human Cues for Robot Navigation*". Coordinated with Chief Investigators and PhD students to develop a robot system for navigating through built environments using cues that humans use. Co-lectured "*Microprocessors and Digital Systems*" (2015) and supervised 1 PhD and 3 final year engineering students. Presented papers at ICRA 2015 and AI 2015.

Lecturer, Queensland University of Technology, *July 2013 – December 2013*
Organised the QUT SEF Showcases for final year students completing capstone projects in Engineering, IT, and Games. Co-lectured "*Introduction to Robotics*" (2013).

Research Scientist, CSIRO, *January 2013 – June 2013*
Produced quality research and technical input for the "*Mobile Telepresence for Museums*" project. Presented a paper describing the system at the HRI workshop at ICRA 2013. Wrote a user guide for museum staff. video

Research Fellow, The University of Queensland, *July 2008 – December 2012*
Post-doc in the "*Lingodroids*" project, research towards robots that can understand human language. Lectured "*Artificial Intelligence*" (2008-2012) and supervised 4 honours and 3 summer research students. Presented papers at ICRA 2011, ACRA 2010, and ALife 2010. video1 video2

Design Engineer, EDMI Limited, *February 2004 – February 2005*
Provided usability recommendations for metering software. Developed software for a wireless metering device.

Education

Coursera: Machine Learning by Stanford University (*April '19*), Deep Learning Specialization by deeplearning.ai (3 of 5 courses completed *May '19*)

Udemy: Learn Python Programming Masterclass (*Jan '19*), Python for Data Science and Machine Learning Bootcamp (*Jan '19*), Learn Advanced C++ Programming (*Feb '19*), Modern C++ Concurrency in Depth (*Mar '19*)

Doctor of Philosophy in Computer Science, The University of Queensland, *Completed 27/11/2008*, Thesis: *Spatial Language for Mobile Robots: The Formation and Generative Grounding of Toponyms*

Bachelor of Engineering (Electrical) with Honours Class I and Bachelor of Science (Computer Science), The University of Queensland, *Completed 8/12/2003*, Thesis: *Interface for an Automated Cocktail Maker* video

Skills

Platforms: Windows, Linux
Coding Languages: C, MATLAB, C++, Java, Python, Octave
Coding environments: Jupyter Notebooks, Visual Studio, Eclipse, Intellij, QT creator
Machine Learning: Neural Networks, Bayesian Networks, Decision Trees, Support Vector Machines
Machine Learning Libraries: Tensorflow, Numpy, Pandas, Scikit-learn, SciPy
Data Visualization: Matplotlib, Seaborn, Plotly
Interaction Design: Usability evaluation
Techniques: Computer vision, localization, SLAM, search
Middleware: Robot Operating System (ROS), OpenGL, GLUT
Robots: Pioneer 3 DX, Guiabot, PR2, Baxter
Languages: English (Native), Norwegian (conversational), German (conversational)