

Manisha Senadeera

LinkedIn: [linkedin.com/in/Senadeera](https://www.linkedin.com/in/Senadeera)

Github Repository: <https://github.com/manishasena>

Website: <http://www.manishasena.com>

Education

Deakin University

Aug 2018 - Current

Doctor of Philosophy (Information Technology)

Part-Time

Supervisors: Dr Thommen George, A/Prof Santu Rana, A/Prof Sunil Gupta & Prof Svetha Venkatesh

Queensland University of Technology

Feb 2010 - Nov 2014

Course: Bachelor of Engineering (Electrical) / Bachelor of Mathematics

GPA: 6.75 (out of 7 point grade scale)

Graduated with First Class Honours and Distinction

Publications

Conference:

(PENDING) **Senadeera, M.**, George, T., Gupta, S., Jacobs, S. & Rana, S. (2023). EEMoO: An Explainable Empathy-inspired Model of the Other. International Joint Conference on Artificial Intelligence (IJCAI)

Senadeera, M., George, T., Gupta, S., & Rana, S. (2022). Sympathy based reinforcement learning agents. International Conference on Autonomous Agents and Multiagent Systems (AAMAS)

Senadeera, M. (2022). Empathetic Reinforcement Learning Agents. International Conference on Autonomous Agents and Multiagent Systems: Doctoral Consortium (AAMAS)

Joseph, J., **Senadeera, M.**, Chao, Q., Shamlaye, K. F., Rana, S., Gupta, S., ... & Fabijanic, D. (2021). Computational design of thermally stable and precipitation-hardened Al-Co-Cr-Fe-Ni-Ti high entropy alloys. Journal of Alloys and Compounds, 888, 161496.

Ruberu, K., **Senadeera, M.**, Rana, S., Gupta, S., Chung, J., Yue, Z., Venkatesh S., & Wallace, G. (2021). Coupling machine learning with 3D bioprinting to fast track optimisation of extrusion printing. Applied Materials Today, 22, 100914

Barnett M.R, **Senadeera M.**, Fabijanic D., Shamlaye K., Joseph J., Kada S.R, Rana S., Gupta S., Venkatesh S (2020). A scrap-tolerant alloying concept based on high entropy alloys, In: Acta Materialia, Volume 200, Pages 735-744,

Senadeera M., Rana S., Gupta S., Venkatesh S. (2019) Length Scale Warping for Level Set Estimation. In: 24th Pacific-Asia Conference on Knowledge Discovery and Data Mining.

Shamlaye K., **Senadeera M.**, Rana S., Gupta S., Venkatesh S., Fabijanic D., Barnett M. (2019) Exploration of the Solid-Solution Space in the Co-Cr-Fe-Ni System via Rapid Alloy Selection and Synthesis Methods. In: 1st World Congress on High Entropy Alloys (HEA 2019)

Joseph J., Shamlaye K., **Senadeera M.**, Rana S., Gupta S., Venkatesh S., Barnett M., Fabijanic D. (2019) High Temperature, Low Cost and Light Weight High Entropy Superalloys. In: 1st World Congress on High Entropy Alloy

Senadeera M., Maire F., Rakotonirainy A. (2015) Turning Gaming EEG Peripherals into Trainable Brain Computer Interfaces. In: Pfahringer B., Renz J. (eds) AI 2015: Advances in Artificial Intelligence. Lecture Notes in Computer Science, vol 9457. Springer, Cham. (https://doi.org/10.1007/978-3-319-26350-2_44)

Senadeera, Manisha & Miller, Wendy (2015) Residential electricity costs: Assessment of Queensland electricity tariffs for solar households. In Proceedings of the 2015 IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), IEEE, Australia, pp. 1-4. (<https://doi.org/10.1109/APPEEC.2015.7381038>)

Senadeera, Manisha & McGree, James (2015) Earth hour energy impact. In Proceedings of the 2015 IEEE PES

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Asia-Pacific Power and Energy Engineering Conference (APPEEC), IEEE, Australia, pp. 1-5.

(<https://doi.org/10.1109/APPEEC.2015.7380949>)

Senadeera, Manisha, Rate, Kazutaka, Takiuesaike, Nakamura, Masato, & Nagano Katsunori (2014) Examination of self-sufficiency of electric power combined with PV and battery In 48th Annual Conference on Heating, Air-Conditioning and Sanitary Engineers Society Hokkaido Branch, Japan, pp. 27-30.

Journal:

Huckvale, K., Hoon, L.,, **Senadeera, M.**, ... Christensen, H. (2022). Protocol for a bandit-based response adaptive trial to evaluate the effectiveness of brief self-guided digital interventions for reducing psychological distress in university students: The Vibe Up Study. MedRxiv. doi:10.1101/2022.12.05.22283129

Quinn TP, Jacobs S, **Senadeera M**, Le V, Coghlan S, (2022), "The three ghosts of medical AI: Can the black-box present deliver?", Artificial Intelligence in Medicine (<https://doi.org/10.1016/j.artmed.2021.102158>)

Quinn TP, **Senadeera M**, Jacobs S, Le V, Coghlan S, (2021), "Trust and medical AI: the challenges we face and the expertise needed to overcome them", Journal of the American Medical Informatics Association (<https://doi.org/10.1016/j.artmed.2021.102158>)

Miller, Wendy & **Senadeera, Manisha** (2017), "Social transition from energy consumers to prosumers: Rethinking the purpose and functionality of eco-feedback technologies," Sustainable Cities and Society, vol. 35, pp. 615-625.

(<https://doi.org/10.1016/j.scs.2017.09.009>)

Experience

Deakin University – Applied Artificial Intelligence Institute (A2I2)

April 2018 – Current

Research Associate

Undertaking research with Australian Laureate Fellow Professor Svetha Venkatesh in the area of Bayesian Optimisation and Pattern analysis for accelerating scientific innovation.

Australian Energy Market Operator (AEMO)

Feb 2015 – April 2018

Analyst – Forecasting Technology Support

Oct 2017 - April 2018

Graduate Engineer/ Analyst - 9 month placements in the following teams:

Feb 2015 – Sept 2017

Operations Planning, Connection Point and Operational Forecasting, Electricity Market Monitoring and, Market Insights

Vocational Research Project

Nov 2014 – Feb 2015

Supervisor: Dr Frederic Maire and Professor Andry Rakotonirainy

Project Title: *Turning gaming EEG peripherals into trainable brain computer interfaces*

Hokkaido University, Japan and QUT

Dec 2013 – Feb 2014

Joint University Vocational Research Project

Supervisors: Dr Wendy Miller (QUT) and Prof Katsunori Nagano (Hokkaido)

Project Title: *Exploration of domestic power usage patterns and the feasibility and effectiveness of photovoltaic power to supply domestic demands in Australia and Japan*

Vocational Research Project

Nov 2012 – Dec 2012

Supervisor: A. Prof Troy Farrell

Project Title: *Diffusion of Hydrogen Ions within cathode of alkaline batteries at the sub-microscopic scale*

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QUT Tutor and Laboratory Demonstrator

Feb 2011 – Feb 2015

Unit: ENB 200: Introducing Engineering Systems

Unit: ENB 120: Electrical Energy and Measurements

Unit: ENB 100: Engineering and Sustainability

Unit: MAB 211, 212 and 233: Mathematics for Engineers 1, 2 and 3

POWERLINK QUEENSLAND

Nov 2011 – Feb 2012

Student Engineer – Protections Division

Queensland Electricity Transmission Utility

ENERGEX

Jan – Feb 2011

Student Engineer – Network Systems Engineering Division

Queensland Electricity Distribution Utility

Programming Skills

- Competent in the use of software programs and languages:
 - Python (numpy, pandas, keras, tensorflow)
 - R and R Shiny
 - MATLAB and Matlab SIMULINK

Community and University Involvement

Ruhuna University Women in Engineering Scholarship Establishment	2019
AEMO Community Partnerships Coordinator	2016 - 2018
Oxfam QLD	2014 - 2016
<i>State Committee Co-Chair (2014-2015)</i>	
<i>Gender Empowerment Speaker Night Coordinator (2014 – 2016)</i>	
Young Engineers Australia QLD (YEAQ) EWB Representative	2015
Engineering Awareness Program – Fiji Workshop Developer and Facilitator	2014
Engineer’s Without Borders (EWB) Australia	2011 – 2015
<i>SEQ Regional Membership Engagement Coordinator 2015</i>	
<i>QUT President 2012-2013</i>	
QUT Built Environment and Engineering Student Liaison Committee	2011
QUT College of Excellence	2010 – 2014

Awards and Scholarships

AEMO Above and Beyond Award	2016 & 2017
<ul style="list-style-type: none">• Development of Generation Availability Forecast Tool (2016)• Establishing and coordinating corporate community partnerships (2017)	
PwC Open Innovation Challenge – Shortlisted	2017
QUT Vocational Research Scholarship	2012 & 2014
QUT Student Leadership Excellence Award	2013
TEDxQUTChange Presenter – ‘Beauty of Development’	2013
Deans Honors List	2010 - 2014
AURECON Compassion Challenge – Shortlisted	2011
Australian Power Institute Bursary	2010
QUT Vice Chancellor’s Scholarships	2010