Rangika Nilani

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Education

Massey University — Wellington, New Zealand
PhD — *December. 2018 – present*

University of Moratuwa — Moratuwa, Sri Lanka
M.Sc. by Research — *June. 2013 – April 2015*

University of Kelaniya — Kelaniya, Sri Lanka
B.Sc. in Management & Information Technology — *July. 2007 – Dec 2011*

Experience

Lecturer — June 2017 – Present
Department of Industrial Management, University of Kelaniya — *Kelaniya, Sri Lanka*

Consultant/Lecturer — January 2016 – June 2017
National Institute of Business Management (NIBM) — *Kelaniya, Sri Lanka*

Visiting Lecturer — March 2016 – Aug 2016
Department of Computer and Statistics, University of Kelaniya — *Kelaniya, Sri Lanka*

Research Engineer — April 2013 – Dec 2014
LK Domain Registry — *Moratuwa, Sri Lanka*

Business Analyst — Oct 2011 – April 2013
D.Samsons and Sons(Pvt) Ltd — *Colombo, Sri Lanka*

Management Trainee-Internship — June 2009 – Sep 2009
Coca-cola Beverages — *Biyagama, Sri Lanka*

Projects

Disaster Event Extraction - multi-source multimodal data | *Python, spaCy* — Jan 2022 – July 2022

* A real-time system (software prototype) that focuses on integrating text and images to extract answers to the *What (semantic)*, *Where (spatial)* and *When (temporal)* (3W) questions
* Project Link : Multi-source multimodal event extraction system

Disaster Event Extraction - multi-source unimodal data | *Python, spaCy* — Apr 2021 – Nov 2021

* A real-time system (software prototype) to extract aggregated disaster events from news and SM feeds
* Project Link : Multi-source unimodal event extraction system

Traffic Flow Estimation from CCTV footage | *Python, Yolov4* — Aug 2020 – Jan 2021

* A methodology to obtain directional traffic flow counts by vehicle class in real-time using CCTV footage
* Github Link : Traffic-Flow-Estimation

Disaster-related Tweet Classification | *Python, Pandas, keras, Tensorflow* — Aug 2020 – Jan 2021

* Large-scale Machine Learning and Deep Learning model evaluation for disaster-related tweet classification
* Github Link : Disaster-Tweet-Classification

Traffic Flow Estimation from CCTV images | *Python, Yolov3* — Oct 2019 – Jan 2020

* A methodology to obtain directional traffic flow counts by vehicle class using CCTV images
* Github Link : Traffic-Flow-Estimation

Identification and characterization of web crawlers | *Python* Oct 2019 – Jan 2020

* A rule-based approach to identify and characterise web crawlers from web server access log files
* Research Article: Algiriyage, N., Jayasena, S., Dias, G., Perera, A., & Dayananda, K. (2013). Identification and characterization of crawlers through analysis of web logs. In 2013 ieee 8th international conference on industrial and information systems (pp. 150–155).

Distinguishing real web crawlers from fakes | *Python* Oct 2019 – Jan 2020

* A methodology to distinguish actual google crawler visits vs fake ones
* Research Article: Algiryage, N., Dias, G., & Jayasena, S. (2018). Distinguishing real web crawlers from fakes: Googlebot example. In 2018 Moratuwa engineering research conference (mercon) (pp. 13–18).

Web user profiling | *Python* Oct 2019 – Jan 2020

* A methodology identify user profiles from web server access log files
* Research Article: Algiriyage, N., Jayasena, S., & Dias, G. (2015). Web user profiling using hierarchical clustering with improved similarity measure. In 2015 Moratuwa engineering research conference (mercon) (pp. 295–300).

Technical Skills

Languages: Python, R Studio, SQL, C/C++, JavaScript, HTML/CSS, php
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm
Libraries: pandas, NumPy, Matplotlib, SpaCy
Deep Learning Platforms: TensorFlow, Keras

Publications

- Algiriyage, N., Prasanna, R., Stock, K. et al. Multi-source Multimodal Data and Deep Learning for Disaster Response: A Systematic Review. SN COMPUT. SCI. 3, 92 (2022).
- Algiriyage, N., Prasanna, R., E H Doyle, E., Stock, K., & Johnston, D. (2020). Traffic flow estimation based on deep learning for emergency traffic management using cctv images. In Iscram 2020 conference proceedings – 17th international conference on information systems for crisis response and management (Vol. 17, pp. 100–109).
- Algiriyage, N., Prasanna, R., Stock, E. E., Kristin, & Johnston, D. (2020). Traffic flow estimation based on deep learning using cctv images. In New zealand research software engineering conference 2020.
- Algiriyage, N., Prasanna, R., Stock, K., Emma, H.-D., & Johnston, D. (2019). Identifying research gap and opportunities in the use of multimodal deep learning for emergency management. Quake CoRE 2019.
- Google Scholar Profile: scholar.google.com

Professional Affiliations and Membership

Student Member June 2020 – Present
Engineering New Zealand *New Zealand*

IEEE Graduate Student Member August 2020 – present
IEEE NZ Central Section *New Zealand*

Vise President Jan 2020 – Dec 2020
QuakeCoRE Emerging Researcher Chapter *Wellington, New Zealand*

I hereby certify that all the information provided in this CV is true and correct. Referees would be available upon your request.