Email: rituka.jaiswal@ntnu.no

Field Of Interest:

Smart Grids, Artificial Intelligence, Programming, Renewable Energy, Electric Vehicles, Data Structures and Algorithms, Optimization Algorithms, Healthcare, Fog/Edge Computing, Diversity & Inclusion, Ethical AI, Sustainable Digital Transformation.

Software Projects and PhD thesis: https://github.com/ritukajaiswal

Research works: https://scholar.google.com/rituka jaiswal

Work Experience:

PhD : Computer Science, University Of Stavanger, Norway (July 2018 - June 2022)

- Research on Artificial Intelligence-based techniques for Smart Grid power management and demand balance.
- Research on household-level power consumption forecasting and demand response management using smart meter data.
- Research on Graph Theory optimization algorithms for the optimal design of wind farm collector systems for their effective integration in Smart Grid.
- Research on real-time smart meter data analysis with Edge/Fog Computing for minimizing the application response time.
- Publication in peer-reviewed journals and international conferences on the mentioned research works.

Senior Software Developer II: R Systems International Limited, India (Nov 2016 - Jan 2018)

- Tuner network device driver implementation and Linux kernel configuration for adding Set-Top Box (STB) devices.

Senior Software Developer: Samsung R&D India Pvt. Limited, India (Nov 2011 - Sep 2016)

- Resolved critical issues of memory corruption and application crashes in the Set-Top Box application.
- Implementation of tuner, audio, and video device drivers.

- Responsible for complete code restructuring of the application.
- Implemented STB boot time optimization to achieve the minimum time required for the application launch.
- Implemented Doxygen tool for implementing coding guidelines and Prevent tool for resolving memory leak issues in C-language application.
- Implemented multithreading to achieve performance in the application run time.
- Implemented Broadcom board bring-up by configuring the General Purpose Input Output (GPIO) pins using Broadcom schematic and datasheet.

Software Engineer Intern: Sapient Nitro Pvt. Limited, India (Jan 2011 - July 2011)

- Developed the front end of an e-commerce website using JSP and Javascript.

Leadership Potential and Awards:

- **Top 100+ women in the field of Artificial Intelligence in Norway published by NORA in 2022**.
- Session chairman at the International Conference on Electrical, Computer, Communications, and Mechatronics Engineering, and received a certificate for the same (ICECCME, 2021).
- Local chair and organizing committee member of NORA Annual Conference, held in June 2022 in Stavanger, Norway.
- Best presentation award for an international conference paper on applications of Artificial Intelligence (AICCC, Kyoto, Japan, 2021).
- Program and organizing committee member of International Pint of Science in May 2022, Stavanger.
- Held advocate position for 2020 and 2021 of N2Women, a community of researchers in the field of networking and communications. N2Women encourages diversity and aims at fostering connections among under-represented women in this computing sub-field.
- Co-supervised three master's students for the completion of their thesis in machine learning in the Smart Grid research domain. Co-supervised two bachelor's students for their thesis. Taught Python and Machine learning.
- Part of Lean In circle and organized activities to encourage women to overcome their biases.

Selected Publications:

- Jaiswal, Rituka, Reggie Davidrajuh, and Chunming Rong. 2020. "Fog Computing for Realizing Smart Neighborhoods in Smart Grids" *Computers* 9, no. 3: 76. https://doi.org/10.3390/computers9030076
- Optimal Design of Wind Farm Collector System using a Novel Steiner Spanning Tree, https://ojs.bibsys.no/index.php/NIK/article/view/927
- R. Jaiswal, A. Chakravorty and C. Rong, "Distributed Fog Computing Architecture for Real-Time Anomaly Detection in Smart Meter Data," *2020 IEEE Sixth International Conference on Big Data Computing Service and Applications (BigDataService)*, 2020, pp. 1-8, doi: 10.1109/BigDataService49289.2020.00009.
- Rituka Jaiswal, Reggie Davidrajuh, and S. M. Wondimagegnehu. 2021. Fog Computing for Efficient Predictive Analysis in Smart Grids. Proceedings of the International Conference on Artificial Intelligence and its Applications. Association for Computing Machinery, New York, NY, USA, Article 14, 1–6. DOI:https://doi.org/10.1145/3487923.3487937
- Jaiswal, Rituka and Maatug, Fadwa and Davidrajuh, Reggie and Rong, Chunming, Anomaly Detection in Smart Meter Data for Preventing Potential Smart Grid Imbalance, https://doi.org/10.1145/3508259.3508281
- R. Jaiswal and R. Davidrajuh, "A Simple Algorithm for finding Steiner Spanning Trees," 2021 International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), 2021, pp. 1-5, doi: 10.1109/ICECCME52200.2021.9591017.
- PhD thesis on “Tools and Methodologies for Power Management in Smart Grids”. Copy available on the Github page. Successfully defended Ph.D. on June 24, 2022.

Website: https://ritukajaiswal.github.io/

Contribution to multi-author papers

- Made more than 90% contribution to all of my research papers. The role of co authors was formal analysis, structuring, and quality control.

Education:

Degree	University	Year	Percentage/CPI
PhD. Computer Science	University Of Stavanger, Norway	2018-2022	Passed

Masters Of Computer Applications	MNNIT, Allahabad, India	2008-2011	7.82
Bachelors Of Science(Physics, Electronics)	Ewing Christian College, India	2004-2007	65.72%

Co-curricular activities:

- Volunteered for creating awareness of women equality in Lean-in women networks in India and Norway.
- Mentored women in my network to become equally capable to their male peers.
- Mentored junior software engineers for soft skills and project training at Samsung.

References:

- **Prof. Reggie Davidrajuh, reggie.davidrajuh@uis.no, Ph: +4751831051(PhD supervisor)**
- **Sachin Gaur, Organization: NORA , sachin.gaur@nora.ai, Ph: +4796723490 (Evaluator for research work)**
- **Prof. Mohan Kohle: mohan.l.kohle@uia.no, Ph: +4793414532(Research advisor for a project)**