MD SAMAR AHMAD

Ph.D in Electrical Power, Scientist, ARTC, A*STAR, Singapore

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md-samar-ahmad-phd-electrical-power

ABOUT MYSELF

- Passionate innovator with 4+ years of experience in various mathematical modelling, simulation, and optimization for more- electric power and energy storage systems in MATLAB, C , Python, PLC etc.
- Delivered various optimization tools to global stakeholders as per their businesses requirements. Various pullthrough for industrial application considering economic and feasibility assessment, sizing, and siting of future microgrids.

JOB EXPERIENCE

Scientist I

Advanced Remanufacturing and Technology Centre(ARTC), A*Star

March 2023 - present Singapore

Research Scientist

Rolls-Royce Corporate Lab @ NTU

May 2019- March 2023 Singapore

PROJECT EXPERIENCE

Hybrid Mobile EV Charging System

Advanced Remanufacturing and Technology Centre(ARTC)

May 2023 – Ongoing Singapore

- Design and commissioning of portable mobile EV charger.

Unified Electro - Thermal Microgrid Controller Development and Deployment

ROLLS-ROYCE@NTU CORPORATE LAB

March 2020 – Ongoing Singapore

- Proposed new method to quantify the real-time update on Levelized Cost of Energy (e-LCOE) with the changes in economic condition (fuel Price, inflation, and interest rate) technologies.
- Development and delivery of the hydrogen fuel cell and flow-battery asset integration.

Hybrid Rail Power System

ROLLS-ROYCE@NTU CORPORATE LAB

Aug 2021 – June 2022 Singapore

- Development of optimal energy controller for Diesel-Electrical Railway System.

Land-based Microgrid Controller Development

ROLLS-ROYCE@NTU CORPORATE LAB

May 2019 – March 2020 Singapore

- Successful product delivery of bespoke microgrid controller for the external customers – gas generator, diesel generators, energy storages, fuel cell, PV and grid
- Validated the microgrid controller performance on 5MW testbed in Galieos, Germany.

LIFE PHILOSOPHY

"You Plan Yourself but God is a better planner."

MOST PROUD OF

Courage I had
Followed my dream and went for higher study after my bachelor degree even if I had a job offer from top software company.

Hard work Pays
Awarded 'Star Researcher Award' for excellent contribution for my work by Rolls Royce Corporate lab(2020-2022)

Recognise Your Growth
One of the finalists for "Technological Impact of the Year" in the 22nd Annual Business Awards from the British Chamber of Commerce in 2022.

CORE COMPETENCIES

Development Tools

MATLAB | Simulink | HOMER PRO | B&R Automation Studio | Visual Studio | PowerFactory | Spyder | Jupyter Lab | Obsidian | GAMs | git | vim

Programming Languages

C | MatLab | Simulink | Python | LaTeX | Markdown

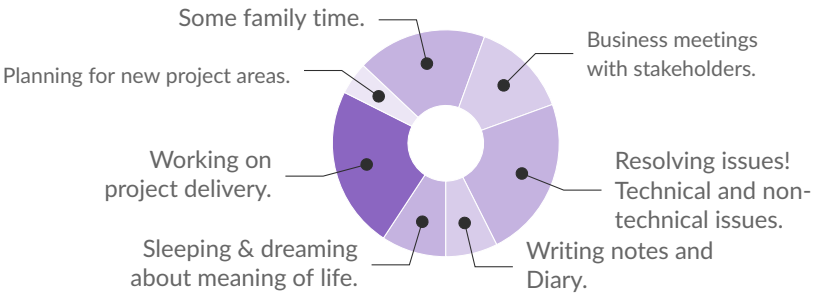
Modeling Frameworks

Optimization | Operation Research | GLPK | Power System Analysis | MILP | Multi-objective | Meta-heuristic Swarm Intelligence | Probabilistic | MINLP | ESS | EMS | PMS

STRENGTHS

Flow-Mode | Improvise | Team Work | Leadership | Persuasive | Project Management | Mathematical Modelling | Optimization

A DAY OF MY LIFE



PUBLICATIONS

Journal Articles

- Sadhukhan, A., Ahmad, M. S., & Sivasubramani, S. (2021). Optimal allocation of ev charging stations in a radial distribution network using probabilistic load modeling. *IEEE Transactions on Intelligent Transportation Systems*.
- Ahmad, M. S., & Sivasubramani, S. [Shanmugavelu]. (2019). Potential impacts of emission control policy on the vehicle to grid environment: A novel approach. *IET Smart Grid*, *2*(1), 50–59.
- Ahmad, M. S., & Sivasubramani, S. (2018). Optimal number of electric vehicles for existing networks considering economic and emission dispatch. *IEEE Transactions on Industrial Informatics*, *15*(4), 1926–1935.
- Sivasubramani, S., & Ahmad, M. S. (2014). Hybrid harmony search algorithm and interior point method for economic dispatch with valve-point effect. *International Journal of Emerging Electric Power Systems*, *15*(3), 253–261.

Conference Proceedings

- Sadhukhan, A., Sivasubramani, S., & Ahmad, M. S. (2019). Optimal placement of electric vehicle charging stations in a distribution network. In *2019 8th international conference on power systems (icps)* (pp. 1–6). IEEE.
- Ahmad, M. S., & Sivasubramani, S. (2016a). Feasibility of v2g ideology in developing economy: Operation, analysis and impact. In *2016 national power systems conference (npsc)* (pp. 1–5). IEEE.
- Ahmad, M. S., & Sivasubramani, S. (2016b). Multi-objective v2g energy storage system for grid support with cost and emission reduction. In *2016 ieee region 10 conference (tencon)* (pp. 1925–1928). IEEE.
- Ahmad, M. S., & Sivasubramani, S. (2015). Optimal solution of plug in hybrid electric vehicles to minimize cost and emission in a smart grid-a developing country view. In *2015 ieee power & energy society general meeting* (pp. 1–5). IEEE.

INVENTION DISCLOSER

- **Mohammad Samar Ahmad** , Aditya Venkatraman, Souvik Dasgupta, Marcus Mücke (TDAP), Sascha Sperling (TDAP), Daniel Sulaiman (TDAP), Amit Kumar Gupta, "Adaptive Intelligent Microgrid System-Controller (AIMSc)", 2019EM00087 DE, 11 December 2019 (Applied-RRE Process).
- **Mohammad Samar Ahmad**, Aditya Venkataraman (RRE/ Singapore), Souvik Dasgupta, Suman Mondal (RRE/ Singapore), Kyaw Hein (RRE/ Singapore), Marcus Mücke (TDAP), Sascha Sperling (TDAP), Daniel Sulaiman (TDAP) "Unified Electro-thermal Microgrid Solution for Planning, Control and Costing (UETMSPCC)" 2021EM00010 DE, 26. February 2021 (Applied-RRE Process).

LANGUAGES

English
Hindi
Urdu

EDUCATION

Ph.D in Electrical Engineering

Indian Institute of Technology Patna, India

April 2013 – March 2019

B.Tech. in Electrical and Electronics Engineering

Kalinga Institue of Industrial Technology, India

Aug 2008 – July 2012

REFEREES

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Dr. Alok Kumar Verma
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CleanTech Two, Singapore 637143

QR CODE

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