

## **Sivaraman P**

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**Power system engineer with around 10 of industrial experience in power system studies and grid code compliance for renewable energy systems.**

### Skill Summary

- Power system studies and grid code compliance studies such as load flow analysis, power factor compensation studies, short circuit analysis, harmonic analysis, relay coordination, arc flash analysis, and dynamic analysis for renewable power plants including DERs & EV charging infrastructure
- Design and detail engineering of Solar PV system: rooftop system, ground-mounted system, and floating system
- Microgrids, hybrid systems and large-scale battery energy storage system
- Equipment sizing such as solar PV modules, solar inverters, cable sizing, bus duct sizing, electrical panel sizing, DG sizing, transformer sizing, CT & PT sizing, switchgear sizing, and UPS system sizing
- Power quality audits, Harmonic studies, and Harmonic filter sizing
- Techno-commercial solutions including solar microinverters for the location with higher shading effects
- Proposals and strategic roadmap preparation
- Data collection and requirements from site
- Knowledge of national and international codes/standards and policies
- Working group member of IEEE standards and taskforce, national study committee member of CIGRE
- Organized events for renewable energy, energy storage system and electric vehicle
- Others: published technical findings in articles/books/book chapters; trained more than 500 working professionals, research engineers, students in renewable energy and power systems

### **Academic Qualifications:**

Institution	Anna University, Chennai
Qualification	PhD in part time (pursuing)
Year of Graduation	2022 onwards

Institution	Anna University, Chennai
Qualification	Master of Engineering in Power Systems Engineering
Year of Graduation	2014

Institution	Anna University, Chennai
Qualification	Bachelor of Engineering in Electrical and Electronics Engineering
Year of Graduation	2012

### **Professional Membership:**

- ❖ Senior Member of Institute of Electrical and Electronics Engineers (IEEE) (Mem. No: 96339095)
- ❖ Member of International Council on Large Electric Systems (CIGRE) (Mem. No: 620210003)
- ❖ Associate Member of Institution of Engineers (India) (Mem. No: AM1914845)

### **Professional Engineer Certification:**

- ❖ Received Professional Engineer (India) certification from Institution of Engineers India. Certificate no: 7005372, Valid up to Feb 2027

### **Standards Association and Study committees:**

He has been involved in the following IEEE standards and taskforce working group's

- ❖ IEEE P2800.2 – Recommended Practice for Test and Verification Procedures for Inverter Based Resources (IBRs) Interconnecting with Bulk Power Systems
- ❖ IEEE P2844 – Recommended Practice for Limiting Voltage Imbalance in Electric Power Systems
- ❖ IEEE P2418.5 – Standard for Blockchain in Energy
- ❖ IEEE P1854 – Guide for Smart Distribution Applications

- ❖ IEEE P3001.9 – Recommended Practice for the Design of Power Systems Supplying Lighting Systems in Commercial and Industrial Facilities
- ❖ IEEE taskforce on Energy Storage

### **Publications:**

Google scholar link:

<https://scholar.google.com/citations?user=XLdd0mgAAAAJ&hl=en>

Authored the following books,

- ❖ **P. Sivaraman**, C. Sharmeela, P. Sanjeevikumar, “**Fast Charging Infrastructure for Electric and Hybrid Electric Vehicles: Methods for Large Scale Penetration into Electric Distribution Networks**”, Wiley-IEEE Press. ISBN: 978-1119987741.
- ❖ **P. Sivaraman**, C. Sharmeela, A. Thaiyal Nayagi and R. Mahendran, “**Basic Electrical and Instrumentation Engineering**”, Scrivener-John Wiley publication, 2020. ISBN: 978-1119764465.

Edited the following books,

- ❖ P. Sanjeevikumar, C. Sharmeela, **P. Sivaraman**, “**Power System Operation with 100% of Renewable Energy Resources**”, Academic Press (Elsevier publication), (in progress).
- ❖ P. Sanjeevikumar, **P. Sivaraman**, C. Sharmeela and Jens Bo Holm-Nielsen, “**Artificial Intelligent based Smart Power Systems**”, Wiley-IEEE Press, 2022. ISBN: 9781119893967.
- ❖ P. Sanjeevikumar, C. Sharmeela, Jens Bo Holm-Nielsen and **P. Sivaraman**, “**Power Quality in Modern Power Systems**”, Academic Press (Elsevier publication), 2020. ISBN: 9780128233467.
- ❖ C. Sharmeela, **P. Sivaraman**, P. Sanjeevikumar and Jens Bo Holm-Nielsen, “**Microgrid technologies**”, Scrivener-John Wiley publication, 2021. ISBN: 978-1119710790.
- ❖ P. Sanjeevikumar, C. Sharmeela, **P. Sivaraman** and Jens Bo Holm-Nielsen, “**Residential Microgrids and Rural Electrification**”, Academic Press (Elsevier publication), 2021. ISBN: 9780323901772.
- ❖ **P. Sivaraman**, C. Sharmeela, Meera K. Joseph and P. Sanjeevikumar, “**IoT, Machine learning and Blockchain Technologies for Renewable Energy and**

**Modern Hybrid Power Systems”** River publication, 2022. ISBN: 9788770227247.

Authored/co-authored the following book chapters,

- ❖ **P. Sivaraman** and C. Sharmeela, **Power Quality Problems Associated with Electric Vehicle Charging Infrastructure**, in P. Sanjeevikumar, C. Sharmeela, Jens Bo Holm-Nielsen and P. Sivaraman, Power Quality in Modern Power Systems, Academic Press (Elsevier), pp.151-161, United Kingdom, 2020.
- ❖ **P. Sivaraman** and C. Sharmeela, **Power System Harmonics**, in P. Sanjeevikumar, C. Sharmeela, Jens Bo Holm-Nielsen and P. Sivaraman, Power Quality in Modern Power Systems, Academic Press (Elsevier), pp.61-103, United Kingdom, 2020.
- ❖ **P. Sivaraman** and C. Sharmeela, **Power Quality and its Characteristics**, in P. Sanjeevikumar, C. Sharmeela, Jens Bo Holm-Nielsen and P. Sivaraman, Power Quality in Modern Power Systems, Academic Press (Elsevier), pp.1-60, United Kingdom, 2020.
- ❖ **P. Sivaraman**, C. Sharmeela and S. Elango, **Load Flow Analysis for Micro Grid**, in C. Sharmeela, P. Sivaraman, P. Sanjeevikumar and Jens Bo Holm-Nielsen, Power Quality in Modern Power Systems, John Wiley & Sons and Scrivener Publishing LLC, pp.177-195, United States of America, 2021.
- ❖ **P. Sivaraman** and C. Sharmeela, **“IoT based Battery Management System for Hybrid Electric Vehicle”**, Artificial Intelligent Techniques for Electric and Hybrid Electric Vehicles, Scrivener-John Wiley publication, 2020.
- ❖ **P. Sivaraman** and C. Sharmeela, **“Existing issues associated with electric distribution system”**, New solutions and technologies in electrical distribution networks, IGI global publication, 2019.
- ❖ **P. Sivaraman** and C. Sharmeela, **“Introduction to electric distribution system”**, New solutions and technologies in electrical distribution networks, IGI global publication, 2019.
- ❖ **P. Sivaraman** and C. Sharmeela, **“Solar Micro-Inverter”**, Handboob of research on recent developments in electrical and mechanical engineering, IGI global publication, 2019.

- ❖ **P. Sivaraman**, C. Sharmeela, and S. Logeshkumar “**Charging Infrastructure Layout and Planning for Plug-in-Electric Vehicles**”, Cable Based and Wireless Charging Systems for Electric Vehicles: Technology, Control, Management & Grid Integration, IET, 2021.
- ❖ R. Zahira, D. Lakshmi, G. Ezhilarasi, **Sivaraman P**, C N Ravi and C Sharmeela, “**Standalone Microgrid concept for Rural Electrification**” in P. Sanjeevikumar, C. Sharmeela, P. Sivaraman and Jens Bo Holm-Nielsen, “Residential Microgrids and Rural Electrification”, Academic Press (Elsevier publication), 2021.

Conference: He has presented the research papers in the following conference

- C. Sharmeela, **P. Sivaraman** and S. Balaji, “**Design of Hybrid DC mini-grid for educational institution**”, 4<sup>th</sup> International Conference and Exhibition on Smart Grid and Smart Cities ISGW2018 organized by Indian Smart Grid Forum
- **P. Sivaraman** and C. Sharmeela, “**Power quality assessment for rooftop solar PV system: case study**”, GRIDTECH 2019, CIGRE, April 2019
- **P. Sivaraman**, C. Sharmeela and D. P. Kothari, “**Enhancing the Voltage Profile in Distribution System with 40GW of Solar PV rooftop in Indian Grid by 2022: a review**”, 1<sup>st</sup> International Conference on Large Scale Grid Integration of Renewable Energy in India, September 2017

### Training program:

#### Invited Talks:

- Delivering the lecture on the title of “**Challenges of Solar PV Integration into Distribution System**” to research engineers of Council on Energy, Environment and Water (CEEW), New Delhi, India. Date: 29.09.2017
- Training program on the title of “**Hands-on training in symmetrical fault analysis using ETAP / MATLAB**”, College of Engineering, Guindy, Anna University, Chennai, India. Date: 30.05.2019
- Training session on the title of “**Power Quality Monitoring**” to the professional engineers of GE T&D India Limited, Hosur, Tamilnadu, India. Date: 29.08.2017

### Training Attended:

- Training program on “**Storing energy for a sustainable future**” organized by The Institution of Engineers (India) held at Clarion Hotel President, Chennai, India. Date: 07/09/2019 to 09/09/2019
- UGC sponsored training on “**Solar photovoltaic systems**” held at Institute of energy studies, Anna University, Chennai, India. Date: 26/02/2014 to 01/03/2014
- Training program on “**Optimization algorithms in Power system engineering**” held at Sri Krishna College of Technology, Coimbatore, India. Date: 11/03/2013
- TEQIP-II sponsored training program on “**Optimization Techniques in Electrical power system**” held at Government College of Engineering, Bargur, India. Date: 04/12/2013 to 10/12/2013
- Training program on “**Implementation of software tools in Power Electronics and Power systems based projects**” held at Vivekanandha College of Engineering for Women, Tiruchengode, India. Date: 06/09/2013 to 07/09/2013

### Software and Hardware skills:

#### Software skills:

- PSS/E
- DIGSILENT POWER FACTORY
- ETAP
- PSCAD
- MATLAB
- PVSyst

#### Hardware or equipment's skills:

- Power Quality Analyzers: Dranetz, Elspec, Fluke and Hioki
- Thermal Imagers: Fluke and Flir
- HIL: OPAL-RT

## **Positions held, duties and responsibilities:**

### **Work Experience - 1**

Organisation : **Schneider Electric Solar India Pvt Ltd**  
Designation : Power Plant Control Engineer  
Period : 14/08/2023 onwards

Conducting the power system studies and grid code compliance studies such as load flow, power factor compensation studies, short circuit, harmonics, and dynamic studies (LVRT, HVRT, Frequency control, Reference tests, reactive current (iq) studies) for solar power plants. Validation of simulation vs site test results.

### **Work Experience - 2**

Organisation : **Vysus Consulting India Pvt Ltd**  
Designation : Senior Power Systems Engineer  
Period : 06/02/2023 – 11/08/2024

Conducting the power system studies and grid code compliance studies such as load flow, power factor compensation studies, short circuit, harmonics, and dynamic studies (LVRT, HVRT, Frequency control, Reference tests, reactive current (iq) studies) for renewable power plants.

### **Work Experience - 3**

Organisation : **World Resources Institute (WRI) India**  
Designation : Program Manager – EV charging Infrastructure  
Period : 15/06/2022 to 31/01/2023

Conducting the grid impact analysis for distribution network due to large penetration of EV charging infrastructure including demand estimation, detailed power system studies such as load flow, power factor compensation studies, short circuit, protection & coordination, and harmonics analysis. Microgrids and renewable energy-powered EV charging stations.

### **Work Experience - 4**

Organisation : **Vestas Technology R&D Pvt. Ltd, Chennai, India**  
Designation : Assistant Lead Engineer  
Period : 09/11/2020 to 14/06/2022

Conducting the power system studies and grid code compliance studies such as load flow, power factor compensation studies, short circuit, protection & coordination, arc flash, harmonics, and dynamic studies (LVRT, HVRT, Frequency control, Reference tests, reactive current (iq) studies) for wind power plants.

#### Work Experience - 5

Organisation : **L&T Construction, Chennai, India**  
Designation : Assistant Engineering Manager (Electrical)  
Period : 19/12/2018 to 04/11/2020

Design and detail engineering of solar PV power plants (rooftop, ground-mounted, floating), microgrids and energy storage systems, conducting the power system studies & grid code such as load flow, short circuit, protection & coordination, and harmonic studies for solar power plants.

#### Work Experience - 6

Organisation : **TECH Engineering Services, Chennai, India**  
Designation : Sr. Engineer  
Period : 03/09/2014 to 13/12/2018

Design and detail engineering of commercial and industrial power systems, rooftop solar PV systems, power quality studies, finding the root cause for troubleshooting problems, conducting the power system studies such as load flow, short circuit, protection & coordination, arc flash, and harmonics studies.