ASHUTOSH SHIROLE

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ORCID ID: 0000-0001-7588-6959

EDUCATION

B.Tech in Mechanical Engineering August 2018 – September 2021

Shivaji University Kolhapur, Maharashtra

CGPA: 8.47/10 (Distinction) (**10th rank** at University)

Dissertation: Flexibility assessment of district energy system for higher VRE shares using FlexTool

Major courses: Power plant engineering, Heat and mass transfer, Engineering thermodynamics, Fluid mechanics

Diploma in Mechanical Engineering June 2015 – May 2018

Maharashtra State Board of Technical Education Mumbai, Maharashtra

Percentage: 90.71 (Distinction) (**Top 1% at Board**)

Major courses: Renewable energy sources and management, Thermal engineering, Theory of machines, Fluid mechanics

PUBLICATIONS

Shirole, A., Wagh, M., Kulkarni, V., & Patil, P. (2022) **Short-Term Energy Scenario of District Energy System Using Optimized Renewable Energy Mix with and Without Energy Storage**. Available at SSRN 4112975 [Accepted at **SCOPUS and SCIE** indexed journal, under publication**]**

Shirole, A., Wagh, M., & Kulkarni, V. (2021). **Thermal Performance Comparison of Parabolic Trough Collector (PTC) Using Various Nanofluids**. International Journal of Renewable Energy Development, 10(4), 875-889. https://doi.org/10.14710/ijred.2021.33801 **[SCOPUS]**

Shirole, A. (2020). **Status of Concentrated Solar Power in India**. International Research Journal of Engineering and Technology, 7 (10) **[**View**, Peer reviewed journal]**

PROFESSIONAL EXPERIENCE

Tata Consultancy Services Ltd Pune, Maharashtra

Assistant system engineer September 2021- Present

- Analyse the data to provide quality datasets and insights to business critical decisions
- Import, clean, and filter the data from a major database, COSMOS to retrieve audience as per the targeting criteria.
- Analyse the user behaviour data to review targeting criteria, generating KPI (Key Performers Indicators) analytics report
- Convert data into actionable items by predicting and modelling future outcomes.
- Recommend and implement ways to improve data reliability, efficiency and quality.

PROJECTS

Flexibility assessment of district energy system for higher VRE shares using FlexTool

- Developed **multi-objective, multi-node optimisation model** for the district energy system and conducted combined analysis to reduce total system cost, carbon footprint and meet flexibility demand
- **Analysed multiple scenarios** to identify an **optimal capacity expansion plan**, located **flexibility issues** in future energy grid and suggested possible alternatives to reduce the same.

Thermal Performance Comparison of Parabolic Trough Collector (PTC) Using Various Nanofluids

- Calculated **thermal performances** for metallic as well as carbon nanofluids by considering heat transfer equations, thermodynamic properties of nanofluid and pumping power
- Predicted **technical and the economic viability** of technology for a **range of nanofluid concentration**

Multipurpose air compressor [Industrial sponsored project]

- Designed and assembled multipurpose air compressor to serve multiple operations simultaneously in the absence of grid power, the system can operate pneumatic tools, grinding operations, generate electricity, and charge battery.
- Considering the mobility and multi-functionality, the device benefitted to industry economically.

INTERNSHIPS

- Internship at **ARS Glass Tech Pvt. Ltd**. Vadodara, Gujarat — Dec 2021 – March 2022
- Industrial Training at Lada Pumps Pvt. Ltd. in the area of foundry and pump assembly — May 2019 – June 2019
- Industrial training at Shri Kriskna engineers, on machining shop — May 2017 – June 2017

HONOURS AND AWARDS

- Awarded Shivaji University **Merit Scholarship** (2019-2020)
- Honored with **Tenth rank** in B.Tech mechanical engineering **at Shivaji University**, Kolhapur
- Awarded **First prize** in **National level paper presentation** competition at Tatyasaheb Kore Institute of Engineering and Technology
- Awarded **First prize** at **Start-up Time event** organized by Electronics & Telecommunication Engineering department, Department of technology, Shivaji University, Kolhapur
- Awarded **Runner-up prize** in **National level paper presentation** competition at Dr. Bapuji Salunkhe institute of engineering and technology
- Honored with **First rank** in **first year examination** conducted by Maharashtra state board of technical education at the Diploma College

EXTRA-CURRICULAR ACTIVITIES

- **Climate change and sustainable investing specialization by EDHEC Business School**
  Specialization contained four courses which provided comprehensive understanding of complex relationships between climate change, economy and finance. Also informed the tools to select policy approaches involved in the transition to a low carbon economy.

- **The Materiality of ESG Factors Specialization by University of Pennsylvania**
  Specialization constituted four courses that provided overview of various investment approaches that are governed by ESG factors, role of private players in combatting climate change and practices for creating a solid risk management plan.
- Global Energy and Climate Policy course by SOAS University of London
- **Solar Energy Basics and System Design** course by The State University of New York
- Solar photovoltaic - Fundamentals, Technology and applications by **IIT Roorkee** [Received **Elite grade at exam**]
- Data Science for engineers, by **IIT Madras**
- **Volunteered** at **Student solar ambassadors workshop** organized globally by IIT Bombay on 2nd October 2019
- Participated in START-UP 2019 – A Hackathon organized at Rajiv Gandhi Government College, Himachal Pradesh

SKILLS AND INTERESTS

Software: ARCGIS, CATIA, Unigraphics NX, SOLIDWORKS, AUTOCAD

Coding languages: Python, R and R studio, SQL, HTML, CSS, AMPscript

Languages: English (C1), German (A1 Goethe certified), Hindi, Marathi, Sanskrit

Interests: Energy system modelling and optimization, Renewable energy integration, Climate finance, ESG