

RESUME

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EDUCATION

Ph. D. (Electrical Engineering)
Indian Institute of Technology (IIT)
Kharagpur, West Bengal, India

M. Tech. (Power Systems)
Electrical Engineering Dept.
Indian Institute of Technology
Kharagpur, West Bengal,

B. E. (Electrical Engg.)
Indira Gandhi Institute of
Technology (IGIT)
Sarang, Odisha, India

WORK EXPERIENCE

Centurion University of Technology and Management Bhubaneswar, Professor 2 years

- Placed as Head of Centre for Renewable Engineering and Environment (CREE).
- Setup the MiniGrid in Renewable Lab with Solar Panel on Feb, 2021.
- Designed a PID controller for automation system within 15 days of GramTarang Food's Plant.
- Organized the FDP on **Matlab for Machine Learning** for 30 days in Centurion University.
- Research Coordinator Role for three Streams, EEE, ECE and CREE.
- Successfully setup **Functional IIOT Lab.** in the CUTM campus.
- Organized a Webinar on **World Environment Day** in CUTM on 5th June 2021.
- Project Development of **Cost-Effective Insulin Pump for Diabetic Patients.**

GE Global Research Centre (John F. Welch Technology Centre) Bengaluru, India 6 years

- Visited to Melbourne, Florida, USA, was with development teams of the product **ENMACplus & XA-21 (ver-5)** for customizing and enhancing with additional features of the product.
- Successfully led the project "**Remote Model-Based Diagnostics Application**", a web-based tool to remotely monitor and diagnose the operational efficiency of Gas Turbines.
- Developed the New Product Initiative (NPI) project "**Monitoring & diagnosing abnormal operation of combustion of the 9H Gas Turbine**", sponsored by P&DT (Prediction & Diagnosis Technology) organization, GE's Generator Technology Business in Schenectady, New York in USA.
- Developed a transfer function of **Gas Turbine NOx generation** using Excel based tool Chimera (backend Matlab)

ABB Ability Innovation Centre (Principal Scientist), Bangalore 11 years

- Presented after analysed Technical Gap Comparison of the ABB's generator protection products with that of its competitors such as SEL, SIEMENS and GE in the area of machine protection within 6 months.
- Involved in the migration project of Network Manager from Ranger and Spider.
- Guided team to develop two modules "Load balancing by feeder reconfiguration (LBFR)" and "Integrated Volt/VAR Control (IVVC)" for global product Network Manager.
- Visited Mannheim, Germany for collecting requirements of global customers for load balancing by feeder reconfiguration (LBFR) and Integrated Volt-VAR control (IVVC).

Indian Institute of Technology (IIT), Kharagpur, West Bengal, India 6 years

- Served as Junior Project Officer for Sponsored Research Industrial Consultancy (SRIC) in IIT Kharagpur in the project "**Real-Time Digital Simulator for Power Systems (RTDS)**", sponsored by Power Grid Corporation of India, New Delhi (PGCIL).
- The project sponsored by PGCIL was of 15 million INR, one of maximum cost at that time in IIT.
- Successfully managed from the concept development till implementation and handing over to PGCIL, New Delhi.
- Developed an integrated software RTDS, capable of power system simulation, storing in Oracle database, with indigenously developed UI in unix/linux platform. Used Matlab routines for simulating dynamics of power system in real-time execution.

SKILLS

IT Proficiency:

Engineering Tools: Matlab & Simulink (ver. R2021), Machine Learning and AI Foundations: Clustering and Association, Machine Learning and AI: Advanced Decision Trees, Amazon Web Services (AWS) Machine Learning Essentials, The Essential Elements of Predictive Analytics and Data Mining, Learning Cryptography and Network Security, Building and Deploying Deep Learning Applications with TensorFlow, Networking Foundations: Networking Basics, Corporate Financial Statement Analysis, Building a Recommendation System with Python Machine Learning & AI, WordPress 5 Essential Training, Software Design: Code and Design Smells, SQL Code Challenges, Finite Element Method using ANSYS, Dassault System, Modelica, Dymola.

Languages: Python, C, C++ (OOPs), Java, FORTRAN 77/90, Assembly Language (80xxx, Pentium).

Engineering Proficiency:

Electrical Technology:

Power system analyses, power system protection, GE's product XA21, ABB's product Network Manager, Industrial IoT.

Diagnosis & Prognosis Technology:

Digital Signal Processing, AI, Machine Learning, Knowledge Based System, System Identification Techniques, State Estimation Theory & Practice, Fault Modelling & Simulation, Modelling of Industrial power system components, Gas Turbine Performance Optimization, Power Plant GT Emission Model, Enterprise-Application Integration (EAI), Advanced Graphical User Interface (GUI).

Renewable Engineering

Design Domain Course Renewable Energy Application in CUTM which is multidisciplinary in nature including Technology as well as Science Stream.

PROJECTS

- Project development of **Cost-effective Insulin Pump for Diabetic Patients** for Indian Scenario as internal project of Research Group.
- Literature Survey of the said project is done, Timeline is set to deliver the product 2022 June.
- Designed a solution as PID controller prototype developed within 15 days to automation system of Gram Tarang Food's Plant.
- Converting Renewable Energy Lab Completely Solar Operated Minigrid.
- Designed three courses i. **Industrial IoT**, ii. **Domain Renewable Energy Applications**, iii. **Digital Measurement and Instruments**.
- Project **"Remote Model-Based Diagnostics Application"**, a web-based tool to remotely monitor and diagnose the operational efficiency of Gas Turbines.
- Developed a transfer function of Gas Turbine NOx generation using Excel based tool Chimera (backend Matlab) which is a function of weather condition, which affects the operational efficiency of GT at the power plant.
- Project of evaluation about compatibility of DB and connection between Transmission SCADA XA-21 and acquired Distribution SCADA for integration which was aimed to cater both the customers in one product.
- Project Competitor Analysis (SWOT) of the ABB Generator Protection Products with that of Siemens, SEL and GE.
- Development project **N2A**, Part of ABB Product **Network Manager (NM)** two modules are developed LBFR and IVVC using same platform and database.
- Contributed to WG of IEEE Standard 61158-2017 for Industrial Hard Real-Time Communication (IEEE Std), sponsored by IEEE Industrial Electronics Society
- Project **"Real-Time Digital Simulator for Power Systems (RTDS)"**, sponsored by Power Grid Corporation of India, New Delhi (PGCIL) has been developed from scratch to final software product.
- Mimicking the control operation as if power system is running in real-time, machines have been modelled using Matlab and Oracle Database is used for storing the results. The disturbances such as various faults are simulated, AGC is simulated, AC-DC load flow is also incorporated.

ADDITIONAL EXPERIENCE

- Supervised **Dr. Sachin Srivastava**, Principal Engineer, ABB Global Industries and Services Pvt. Ltd., for his Ph. D. degree along with Prof. (Dr.) U. J. Shenoy in the year 2016 from Indian Institute of Science, Bangalore.
- Supervised **Mr. Ashoka Shyamaprasad** and **Mr. Kishan Narayan** in getting M. S. (Software Systems) from BITS, Pilani, India
- Publications 20+ technical journals in various Journals and Conferences
- Successfully filed 2 Patents Granted 1 Patent Application in US Patent Office.

PERSONAL DETAILS

Date of Birth: 7th December 1966

Gender: Male

Marital Status: Married

Hobbies: Reading, Travelling, Listening Music

Permanent Address: Santi Niwas

In front of Mahatab High School

Pallahara-759 119, Dist. Anugul, Odisha (India)

I hereby declare that all details furnished here are true and correct to the best of my knowledge and belief.

Date: 1st September 2021

Place: Bangalore

(Dr. Abhinna Chandra Biswal)