

Suhaib Abugdera

3159 Scenic Lake Drive, Apt#23, Ann Arbor, MI 48108

suhaibabugdera@gmail.com

Mobile Phone: 612.400.3241

<https://github.com/Sohayab>

Objective

Electrical engineering major with extensive knowledge and skills in electrical engineering and a keen interest in power systems and their applications. Seeking an advanced degree in the field to foster ongoing development and career progression. Aiming to bring a combination of creativity, innovation, and advanced technical expertise to deal with technical ambiguity and to tackle some of the most significant, complex challenges prevalent in today's world

Education

Bachelor of Science in Electrical and Electronics Engineering	GPA 3.81/4.00	
St. Cloud State University: https://www.stcloudstate.edu/		May 2023
St. Cloud, MN		
Associate Degree in Electrical Engineering	GPA 3.96/4.00	
Century College: https://www.century.edu/		May 2020
White Bear Lake, MN		
Three-Years Diploma in Electrical Engineering - Power Distribution		
The Higher Institute of Polytechnic Professions: http://zst.edu.ly/		May 2004
Zahra City, Libya		

Relevant Experience

Electrical Engineer

Black & Veatch, Ann Arbor, Michigan, United States	June 2023- current
<ul style="list-style-type: none">Substation Design (MV/HV/EHV), range 23/34.5/115/230/345/500kV, including calculation (Lighting, Lightning, AC&DC, Voltage Drop, Conduit Fill), layout, single-line/three-line diagrams, tripping diagrams, control panels, AC/DC schematics, wiring drawings, protection, sequencing, greenfield, brownfield, remote end connections, and other technical documents such as construction specs, equipment specs, and vendor approvalsPerforming research on various equipment and materials used in the substation design process; This involves analyzing technical specifications, performance data, proposals, and cost estimateActively participating in presentations, learning events, and seminars by various vendors related to the electrical grid and electrical equipmentEngaging in employer training sessions related to electrical engineering disciplines, focusing on substations, transmission lines, generation, renewables, solar energy, and data centers	

Senior Electrical Engineering Intern

Xcel Energy Inc. Sherco Power Plant, Becker, Minnesota, United States	May 2022 - Aug 2022
<ul style="list-style-type: none">Worked on building auxiliary boilers and supported Capitol Projects by completing replacement and upgrading systems for existing projects	

Junior Electrical Engineering Intern

Xcel Energy Inc. Sherco Power Plant, Becker, Minnesota, United States June 2021 - Aug 2021

- Worked on building auxiliary boilers; handled multiple tasks using the required specifications and electrical drawings to install the auxiliary boilers' electrical room, which involved civil work and electrical components such as cable trays, MCCs, SUS XFMR, DCS, control panels, relays, and switchgears
- Participated in the design, commissioning, and startup of the lightning protection system for the auxiliary boilers project
- Supported Capitol Projects by completing replacement and upgrading systems for existing projects

Engineering Coordinator

Cordoba Company for Engineering Services and Consultation, Libya Feb 2012 - May 2015

- Collaborated directly with the client at the client site through active listening to determine their needs and provide insight to the design team
- Reviewed electrical and architectural designs with clients using drawings and schematics to change or modify if needed ensuring the designs meet their expectations
- Assisted with engineering projects by communicating with the client and designers ensuring projects are completed in a timely manner

Electrical Engineering Management

Libyan Brazilian Construction and Development Company, Libya Aug 2008- Feb 2011

- Supervised a team of more than 50 local and international individuals on the construction site by communicating with their foremen or individually resulting in smooth work and leadership
- Delegated and monitored progress and productivity on maintenance, lighting, and installation using AutoCAD which resulted in meeting the client's specifications
- Provided leadership and knowledge expertise to other team members and other constituencies as needed after discussion with the supervisor and production department for better organization and work quality

Senior Meters Reader

General Electricity Company of Libya Dec 2005 - Dec 2008

- Inspected and provided quotes prior to installing electricity and meters from the grid to consumers using the schematics to measure the load and calculate the expected load resulting in smooth service and protected grid from overload
- Reading meters, alert consumers and provide advice for better consumption, using a reader device to input the consumption and sending the bills resulting in customer's satisfactory

Teaching Experience

Teaching Assistant

St. Cloud State University, St Cloud, MN Aug 2022 – May 2023

- Teaching assistant for Circuit Analysis and Engineering Electromagnetics classes for 40 students; assisted professor with labs, grading, proctoring exams and run problem-solving sessions

Teaching Assistant

Century College, White Bear Lake, MN

Aug 2019 - May 2020

- Teaching Assistance for general chemistry and general physics before and after class hours to 50 students per week assisting students with homework, problem-solving, and explaining the class's material; assisted professor during lectures and labs by answering students' questions and explaining the concepts related to chemistry and physics classes

Research Interests

- Power Systems and Energy: Specializing in power systems modernization, renewable energy integration, with a particular emphasis on power quality, stability challenges, monitoring, enhancing energy efficiency, and sustainability
- Power Electronics: Advancing power electronics technologies for efficient conversion, control, and management of electrical power to enhance overall system performance
- Creating prototypes using PCBs for experimental research covering a variety of topics

Research Experience

- Knowledge of academic research through Critical Thinking in Academic Research class
- Conducted research at St. Cloud State University in the field of power electronics, focusing on using transistors as temperature sensors during Spring 2023
- Applied a range of skills and tools including PCB design and assembly, programming, various software tools for system validation, lab setup, and VNA for RF devices

Class Project/Papers/Research [<https://github.com/Sohayab>]

1. Design a DC-DC IC Buck Converter Power Supply from a 120/48Vrms transformer; individual work for class ECE 411 Power Electronics; December 2021
2. Real-time Digital Signal Processing using FIR filter, Wireless Digital Oscilloscope, and Spectral Analyzer; individual work for class ECE 422 Microcontroller System Design; December 2021
3. Design and Application of a Current Feedback Operational Amplifier (CFOA); individual work for class ECE 316 Analog Electronics; April 2021
4. Power Management System Design for Power Supply and Battery Charger Controller; individual work for ECE 461/462 Senior Design Project Fall 2022/Spring 2023
5. Real-Time Sensor Network Monitoring with SmartMesh IP; teamwork for ECE 461/462 Senior Design Project Fall 2022/Spring 2023
6. Investigating the Impact of Ambient Temperature on MOSFET in BUCK Converters, SEPIC Converters, and Power Supply PCB Board (Unpublished)

Skills

- Knowledgeable of SolidWorks, Python, C++, Java, MATLAB, ARM Assembly, PIC24, FPGA, Altium designer (PCB), EAGLE (PCB), Power World, ETAP, PSIM, LTSPICE, PSpice, and CST Studio
- Microsoft Office Suite, Internet, IT, and security

License and Exams

Electrical Engineering Fundamentals License Exam 'EIT', Dec 2023

State of Michigan

Conferences & Presentations

- Minnesota Power Systems Conference (MIPSYCON) Saint Paul/Nov 2024
- State Capitol Presentation Saint Paul/Mar 2023
<https://symposium.foragerone.com/2023-posters-at-st-paul/presentations/50728>

Scholarships, Awards and Achievements

- First Place Presentation Winner, State Capitol, Saint Paul/Mar 2023. Presented a SmartMesh IP Wireless Sensor Network IoT (Team of four classmates St. Cloud State University)
<https://today.stcloudstate.edu/2023/05/01/wireless-sensor-network-project-has-history-of-success-at-scsu/>
- Xcel Energy Power Scholarship in Electrical Engineering Fall 2022/ Spring 2023

Introduction Courses and Training

Electrical Engineering:

- Classic Control and PLC1 | Power System Distribution | Low Lighting Design | Hydraulic and Pneumatic | Power System Protection | Solar Energy System Design | Schneider Electrical Systems Fundamentals

Leadership and Management Training Courses:

- Century College Leadership Institute | Making Leaders Program | The Power of Decision-Making | The Power of Effective Communication | Professional Employee Diploma | The Basics of Modern Management | Teamwork | Strategic Planning | Time Management | Fundamentals of Project Execution

Others:

- Extensive employer-provided electrical engineering training in TLs, substations, distribution, generation, HVDC, FACTS, SCADA, Data Centers, renewable integration projects, seminars, leadership, and management
- Occupational Health and Safety – Basics of First Aid – Basic Fire Fighting (Al Wekaya Company & Petroleum Training & Qualifying Institute)

Volunteering

- Habitat for Humanity Build Day – Michigan, October 2025
- International Coastal Cleanup by Ocean Conservancy – Michigan, September 2025
- STEM Day at the State Fair sponsored by Works Museum – Minnesota, August 2022
- MRES 2022 State Fair Eco Experience – Minnesota, August 2022
- Granite City Days, celebrate World Heritage Day – St. Cloud, June 2021