

# Shoaib Hussain

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## EDUCATION

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### University of Calgary

2021 – present      **Doctor of Philosophy - Electrical & Software Engineering**  
Concentration: *Optimal Grid Utilization*  
GPA: 4.0/4.0

### American University of Sharjah (AUS) (United Arab Emirates)

2011 – 2013      **Master of Science in Electrical Engineering**

2007 – 2010      **Bachelor of Science in Electrical Engineering**  
Specialization: Electrical Power Systems.

## ACADEMIC WORK EXPERIENCE

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### Teaching Assistant (University of Calgary, Electrical & Software Engineering, 2021-present)

- Delivered tutorials and supported lab work for ENGG225.
- Provided project support and acted as team manager for students enrolled in ENEL500 (Electrical & Software Engineering Team Design). Assisted students with project planning, drafting project proposals and technical evaluations.

### Lecturer & Research Engineer (Abu Dhabi Polytechnic, Electro-mechanical Engineering, 2015-2020)

#### Teaching & Faculty Assignments

- Prepared and delivered lectures, tutorials, and seminars.
- Developed course materials in compliance with accreditation and quality assurance standards.
- Developed and delivered the following core courses in the fields of Electrical and Computer Engineering:

Intro. to Power systems	Power Systems Protection	Electric Circuits
Intro. to programming C++	Machine Learning	Power Electronics

#### Program Development & Administrative Assignments

- Served as senior member of the departmental Curriculum Development, Course Scheduling, Articulation and Accreditation committees.
- Served as program representative of the National Qualifications and Occupational Skills Standards (Q+NOSS) Committee.
- Spearheaded the development, review, and validation of vocational occupational profiles under supervision of the department head.
- Served as founding member and coordinator of the first institutional Industrial Advisory Board.
- Lead the departmental On-job-training & Co-op Committee; was responsible for identifying and following up on training and sponsorship opportunities for the enrolled students.

#### Research & Development

- Designed intelligent algorithms for detection, classification, and localization of faults on multi-tapped high-voltage transmission lines.
- Designed and validated evolutionary learning algorithms for detection and localization of short-circuit faults on specialized topologies of high-voltage transmission lines.

- Designed and validated statistical learning algorithms for protection of long-distance compensated transmission lines.

#### **Lab Instructor (Abu Dhabi Polytechnic, Electro-mechanical Engineering, 2012-2015)**

- Responsible for hands-on training and imparting applied technology skills to UAE national students in a practical learning centered environment.
- Assisted program head with planning, specifications and commissioning of Electrical, Computer and Mechatronics Engineering labs.

#### **Key Accomplishments**

- Served as member of key departmental committees that led the award of that led to the successful award of CAA (National accreditation), NQA (National Qualifications Accreditation – vocational) and US based ABET program accreditations.
- Developed and delivered AD Polytechnic’s first course offering in Machine Learning.
- Designated as Certified FESTO Trainer of the FACT center at Abu Dhabi Polytechnic in Mechatronics and Industrial Automation technologies.
- Commended for invaluable contributions to Abu Dhabi Polytechnic on several occasions and awarded Certificates of Appreciation.
- Assisted EMET program in establishing AD Polytechnic’s first Industrial Process Control, Electric Drives, Instrumentation & Control and Industrial Robotics laboratories.
- Authored and co-authored lab manuals and procedures for newly established laboratory courses in coordination with EMET Program Head.
- Successfully delivered and coordinated program’s first On-job Training and Co-op placement cycle.

#### **Electrical Engineering Teaching Assistant (American University of Sharjah, 2011-2012)**

- Training electrical engineering students on power transmission lines, AC/DC motors, transformers and power electronic circuits.
- Interfacing generator and motor systems with measurement units such as Digital Acquisition (DAQ) cards and digital oscilloscopes, preparing advanced control systems experimental setup for temperature and fluid flow processes.
- Providing technical assistance to faculty and senior lab instructors
- Conducting tutorials for courses such as Electrical Machines and grading assignments and reports.

### **PUBLICATIONS**

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- **Shoaib Hussain**, A.H. Osman, “Fault location scheme for multi-terminal transmission lines using unsynchronized measurements”, *International Journal of Electrical Power & Energy Systems*, Volume 78, June 2016, Pages 277-284, ISSN 0142-0615.
- **S. Hussain** and A. H. Osman, “Genetic algorithm based fault locator scheme for three-terminal transmission lines using asynchronous measurements,” *2015 6th International Conference on Modeling, Simulation, and Applied Optimization (ICMSAO)*, Istanbul, 2015, pp. 1-6.
- **Shoaib Hussain**, A.H. Osman, “Fault location on series and shunt compensated lines using unsynchronized measurements,” *Electric Power Systems Research*, Volume 116, November 2014, Pages 166-173, ISSN 0378-7796.
- **S. Hussain** and A. Osman, “Fault location on series-compensated lines using unsynchronized measurements,” *2013 IEEE Power & Energy Society General Meeting*, Vancouver, BC, 2013, pp. 1-5.

### **Major AWARDS & ACADEMIC ACHIEVEMENTS**

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- ESE Special Scholarship Award (2022)
- Alberta Graduate Excellence Scholarship (2021-2022)
- Awarded Graduate Teaching Assistantship and full scholarship for the Masters Program.
- Awarded the Dean’s (Honor’s) List Scholarship at American University of Sharjah in Spring 2007, Spring 2008 and Fall 2008.
- Awarded the Merit Scholarship award from the American University of Sharjah for demonstrating academic excellence in High School. Have since then maintained this scholarship.