

PROFILE

Working across sustainable computing, high-performance systems and large-scale graph analytics — currently a post-doctoral research associate at Queen's University Belfast, with prior experience as an assistant professor and software architect.

EXPERIENCE

Post-Doctoral Research Associate Nov 2024 — Present

Queen's University Belfast — United Kingdom
Energy-efficient, high-performance graph processing: parallel graphlet orbit counting and tooling for loading large-scale compressed graphs.

PhD Researcher, Computer Science May 2021 — Aug 2025

Queen's University Belfast — Belfast
Accelerating Subgraph Isomorphism Search Using Graphlets
Sponsored by the Ministry of Education (India) via Tezpur University, Kelvin Living Lab and EPSRC.

Assistant Professor Aug 2018 — Mar 2021

Jorhat Engineering College — Jorhat, India
Undergraduate computer science teaching, project supervision and academic administration.

Software Architect · Frontend Developer Aug 2016 — Aug 2018

IterativeZero Digital — Guwahati, India
Full-stack web solutions for e-commerce clients, GST-enabled ERP for enterprises, and business development for the Guwahati office.

Teaching Assistant Aug 2014 — Jul 2016

Tezpur University — Assam, India

TEACHING & SUPERVISION

Modules taught	Machine Learning, Cloud Computing, Computer Architecture, Discrete Mathematics, Graph Theory and others (JEC, 2018–2020); Energy Efficient Computing (QUB, 2026)
Assessment design	Outcome-based education through questions written against Bloom's taxonomy and mapped to course and programme outcomes.
Supervision	Final-year capstone project supervision at JEC and QUB; mentored interns at QUB.

Teaching demonstrations with playlists of courses taught asynchronously during the COVID-19 lockdown are available at youtube.com/@syed-it

EDUCATION

PhD, Computer Science
Queen's University Belfast (2026)

M.Tech, Information Technology
Tezpur University (2016)

HONOURS & AWARDS

- PDC PostDoc Award (Support) — Nominated**
Faculty of Engineering and Physical Sciences, QUB
- 3-Minute Thesis — Winner**
School of Electronics, Electrical Engineering and Computer Science, QUB
- 8th Annual Researcher Poster Competition — Winner**
Faculty of Engineering and Physical Sciences, QUB

NATIONAL-LEVEL TESTS

- UGC NET — Qualified**
July 2018 · Marks 59.33
- GATE — Qualified**
2017 · Score 660 · Marks 52.67

RESEARCH THEMES

- Sustainable Computing:** Measuring and reducing energy cost of large-scale analytics workloads through Dynamic Voltage and Frequency Scaling (DVFS) and Dynamic Concurrency Throttling (DCT).
- High-Performance Graph Analytics:** Parallel methods for subgraph isomorphism, graphlet orbit counting and loading compressed graphs that exceed the capacity of single-machine memory.

SELECTED PUBLICATIONS

1. Tauhidi, S.I., Karmakar, A., Mai, T.S. and Vandierendonck, H., 2026. NI-ORCA: A Parallel Algorithm for Counting the Orbits of Non-Induced Graphlets up to K4. In 2024 IEEE High Performance Extreme Computing Virtual Conference (HPEC). IEEE.
2. Esfahani, M.K., Tauhidi, S.I., D'Antonio, M., Mai, T.S. and Vandierendonck, H., 2025, December. ParaGrapher: A Parallel and Distributed Graph Loading Library for Large-Scale Compressed Graphs. In 2025 IEEE International Conference on Big Data (BigData) (pp. 255-260). IEEE.
3. Tauhidi, S.I., Karmakar, A., Mai, T.S. and Vandierendonck, H., 2024, December. OrbitSI: An Orbit-based Algorithm for the Subgraph Isomorphism Search Problem. In 2024 IEEE International Conference on Knowledge Graph (ICKG) (pp. 360-369). IEEE.

PATENT

Smartphone-based system for detection and measurement of chemical and biological species in liquids

FUNDING & SPONSORSHIP

Ministry of Education, Government of India (PhD scholarship via Tezpur University, Assam, India)

Kelvin Living Lab — EP/Z531054/1 (Funding for Post-Doctorate Research Associate at QUB, UK)

EPSRC — EP/T022175/1 (Access of a tier-II HPC infrastructure through Kelvin2)

HiPEAC Travel Grant (Travel grant to attend ACACES 2023 Summer School, Italy)

SPRC Travel Award (Travel grants to attend META 202X, Morocco and ICDM/ICKG 202X, Abu Dhabi)

TEACHING & CURRICULUM DEVELOPMENT — JORHAT ENGINEERING COLLEGE

- Designed courses and authored lab manuals for Data Structures, Web Development and IT Workshop
- Managed lab hardware inventory, system audits and safety guidelines.
- Managed Jupyter lab, LLAMP and standard Linux servers for practicals.
- Contributed to the Computer Science & Engineering department's Self Assessment Report for National Board of Accreditation review through preparation of course files
- Delivered courses asynchronously through YouTube during Coronavirus lockdown (www.youtube.com/@syed-it)

TEACHING & CURRICULUM DEVELOPMENT — QUEEN'S UNIVERSITY BELFAST

Actively participated in the design of the laboratory curriculum and writing of laboratory manuals for Energy Efficient Computing module; worked with the school's IT department to set up the Raspberry Pi server farm and configure it for the course, and provided course-specific IT support to the students.