

**Md Nadim**

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Saskatoon, Saskatchewan, S7N 1L7

**Professional experience at a glance**

- Graduate Student and Teaching Assistant: **6 years** (SK, Canada)
- Teaching at University, Computer Science: **6 years** (Dinajpur, Bangladesh)
- Technical Support at Bank: **8 months** (Dhaka, Bangladesh)
- Teaching at University, Computer Science: **8 months** (Dhaka, Bangladesh)

**OBJECTIVE**


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I completed my PhD in Computer Science in March 2025. I am an experienced researcher specializing in extracting various feature values from source code, fine-tuning pre-trained models, and prompt engineering with GPT. I have experience in working with machine learning (ML) and deep learning (DL) algorithms for classical and quantum computers. I am proficient in Python, C/C++, and shell programming languages. Additionally, I am proficient in utilizing internet resources, databases, software tools, word processing tools, spreadsheets, and other computational frameworks to generate queries, reports, and technical documents.

**EDUCATION****Ph.D. in Computer Science**

University of Saskatchewan • Saskatoon, Saskatchewan, Canada

Sept 2020 - March 2025

- Average cumulative grades on theoretical courses: **90.33%**
- **Key Research Area:** Software bug prediction using **Quantum** and **Classical** machine learning algorithms, their execution, comparison, and challenges.
- Utilizing **IBM Quantum** services, **D-Wave Quantum Annealing** systems, and large language models for experimenting with QML algorithms in real quantum machines and simulators.

**M.Sc. in Computer Science**

University of Saskatchewan • Saskatoon, Saskatchewan, Canada

Sep 2018 - Aug 2020

- Achieved average **91.50%** grades on theoretical courses.
- Awarded the University of Saskatchewan **Dean's scholarship**.
- **Thesis URL:** <https://harvest.usask.ca/handle/10388/13125>

**B.Sc. in Computer Science & Engineering**

Hajee Mohammad Danesh Science &amp; Technology University • Dinajpur, Bangladesh

Jan 2006 - Jun 2010

- Obtained a CGPA of **3.92** out of **4.00**, which is the highest in the batch.
- Awarded **Prime Minister Gold Medal (Bangladesh), 2010**.
- Achieved the **University Grant Commission (UGC) Scholarship, Bangladesh**.
- Achieved yearly **Dean's List Award (4 out of 4 years)** for my academic excellence.

**Professional WORK EXPERIENCE (Full-time job)****Computer Science Course Teacher**

Hajee Mohammad Danesh Science &amp; Technology University • Dinajpur, Bangladesh

Feb 2012 - Aug 2018

**Key responsibilities:** Teaching one or more university subjects related to computer programming and software development for undergraduate students. Prepare and deliver lectures to students and conduct laboratory sessions or discussion groups. Prepare, administer, and grade examinations, laboratory assignments, and reports. Advise students on courses and academic matters, career decisions, and conduct research.

**Assistant Officer (IT Division)**

Dutch Bangla Bank Limited • Dhaka, Bangladesh

Jun 2011 - Jan 2012

**Key responsibilities:** Design, develop, test, implement, and oversee IT systems. Collect, analyze, and summarize data related to mobile banking products. Develop, implement, and apply changes to different web services on the company website.

**Lecturer**

University of Development Alternatives (UODA) • Dhaka, Bangladesh

Oct 2010 - May 2011

**Key responsibilities:** Same as the teaching job above (Computer Science Course Teacher).

**Technical SKILLS**

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- **Programming Languages:** Proficiency in Python, JavaScript, Java, Shell scripting, and C/C++
  - **Quantum Algorithms:** Phase Estimation, Amplitude Amplification, Grover's Search, Shor's Algorithm, Hamiltonian Simulation, Qubitization, Quantum Error Correction (QEC)
  - **Quantum Interface:** IBM Qiskit, D-wave Leap Cloud Interface
  - **High-Performance Computing (HPC):** Slurm, job scheduling, workload management.
  - **ARC Systems:** Compute Canada resources, cloud-based research computing environments.
  - **HPC Tools:** MPI, OpenMP, CUDA, parallel computing frameworks
  - **Research Software Installation:** TensorFlow, PyTorch, OpenFOAM
  - **Web Development Frameworks:** Flask, Django, Node.js
  - **Frontend Technologies:** React.js, TypeScript, HTML, CSS
  - **Version Control/Git:** Git, showcasing expertise in branching, merging, and pull-requests
  - **Database Management:** Exhibits proficiency in managing SQL Servers, MySQL, and MongoDB
  - **Linux/Unix:** Command line interface, including SSH, SCP, TMUX, Screen, PSFTP, etc.
  - Problem-Solving Skills, Time Management, Communication Skills, Self-motivation, Continuous Learning

**Certification Courses**


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- **Graduate Professional Skills Certificate @University of Saskatchewan, SK, Canada**

The Graduate Professional Skills Certificate is a comprehensive, non-credit program for graduate students and postdoctoral researchers at the University of Saskatchewan, SK, Canada. Within this Certificate program, **GPS 974** focuses on strength-based professional skills development, building reflective practice, and developing a professional portfolio for improving skills and growth.

- **Thinking Critically @University of Saskatchewan, SK, Canada**

The goal of this class is to provide a supportive and challenging setting to develop the creative and critical thinking skills required for professional practice. **GPS 984** focuses on foundational frameworks of thinking (often invisible to us) that are used for almost everything we do in our personal and professional lives.

**RESEARCH PUBLICATIONS**

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- [1] **Md Nadim**, M Hassan, AK Mandal, CK Roy, B Roy, KA Schneider, Comparative Analysis of Quantum and Classical Support Vector Classifiers for Software Bug Prediction: An Exploratory Study, **published** in Quantum Machine Intelligence (2025), a Journal of Springer.
  - [2] AK Mandal, **Md Nadim**, CK Roy, B Roy, KA Schneider, Quantum Software Engineering and Potential of Quantum Computing in Software Engineering Research: A Review, **published** in Automated Software Engineering (2025), a Journal of Springer.

- [3] **Md Nadim**, Mohammad Hassan, AK Mandal and Chanchal K. Roy, "Quantum vs. Classical Machine Learning Algorithms for Software Defect Prediction: Challenges and Opportunities", Accepted at 6th International Workshop on Quantum Software Engineering (**Q-SE 2025**), co-located with ICSE-2025.
- [4] AK Mandal, **Md Nadim**, Chanchal K. Roy, Banani Roy, Kevin A. Schneider, "Evaluating the Performance of a D-Wave Quantum Annealing System for Feature Subset Selection in Software Defect Prediction", in the proceeding of "Quantum Artificial Intelligence Workshop", part of the IEEE International Conference on Quantum Computing and Engineering (QCE) 2024 September 16, 2024, Montréal, Québec, Canada.
- [5] **Md Nadim**, Banani Roy. Utilizing source code syntax patterns to detect bug inducing commits using machine learning models, Published: December 31, 2022, in Software Quality Journal (2022), a Journal of Springer.
- [6] **Md Nadim**, Debajyoti Mondal, and Chanchal K. Roy. Leveraging structural properties of source code graphs for just-in-time bug prediction. Journal Publication on Automated Software Engineering, an International Journal of Springer. vol-29, issue-01 pp. 27-57.
- [7] **Md Nadim**, Manishankar Mondal, Chanchal K. Roy, Kevin A. Schneider. Evaluating the Performance of Clone Detection Tools in Detecting Cloned Co-change Candidates, the Journal of Systems & Software (**JSS**).
- [8] **Md Nadim**, Manishankar Mondal, Chanchal K. Roy, "Evaluating Performance of Clone Detection Tools in Detecting Cloned Co-change Candidates", the 14th International Workshop on Software Clones (IWSC), 2020, 7pp. (Presented: February 18, 2020).
- [9] Shahnaj Parvin Shathi, Md. Delowar Hossain, **Md Nadim**, Sayed Golam Rasul Riaydh, and Tangina Sultana, "Enhancing Performance of Naïve Bayes in Text Classification by Introducing an Extra Weight using less Number of Training Examples", In Proc. of the IWCI, held on 12-13 December 2016.
- [10] AK Mandal, Md. Delowar Hossain, **Md. Nadim**, "Developing an Efficient Search Suggestion Generator, Ignoring Spelling Error for High-Speed Data Retrieval Using Double Metaphone Algorithm", In Proc. of the 13th ICCIT, held on 23-25 December 2010, AUST, Dhaka, Bangladesh, Publisher: IEEE, Paper ID: p811. Presenter: I presented this paper at the conference.

#### Canadian WORK EXPERIENCE (Casual Job & VOLUNTEER WORK)

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<b><u>Graduate Teaching Assistant – University of Saskatchewan</u></b> As a Graduate Student @University of Saskatchewan • Saskatoon, SK, Canada	Sep 2020 – August 2024
<b><u>Crowd Support (Watch Party) – Volunteer (One day program)</u></b> TEDx University of Saskatchewan 2024 • Saskatoon, SK, Canada	January 21, 2024
<b><u>GSA Representative -- Volunteer</u></b> Computer Science Graduate Council, University of Saskatchewan • Saskatoon, SK, Canada	Sep 2019 - Aug 2020
<b><u>Vice President (Internal) -- Volunteer</u></b> Computer Science Graduate Council, University of Saskatchewan • Saskatoon, SK, Canada	Sep 2020 - Feb 2021
<b><u>Volunteer Lead (Data Science Workshop, One day program) -- Volunteer</u></b> DIGITIZED, University of Saskatchewan • Saskatoon, Saskatchewan, Canada	May 2019

#### REFERENCE

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- **Dr. Chanchal K. Roy**, Professor  
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University of Saskatchewan, Canada  
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