Mehil B Shah

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🌐 Homepage G Google Scholar ⓘ ORCID ⬢ DBLP 👥 Researchr

🏁 CAREER OBJECTIVES

Mehil's research interests lie at the intersection of Software Engineering (SE) and Artificial Intelligence (AI), with a particular focus on improving the reliability and debuggability of AI-powered software systems. His career objectives are: (a) conducting cutting-edge research to advance the understanding of deep learning bugs and their unique characteristics, (b) developing practical, automated solutions to enhance bug reproducibility and fault localization in intelligent systems, (c) bridging the gap between traditional software engineering practices and modern AI development workflows through tool-building and empirical studies, (d) establishing a foundation for robust, maintainable agentic AI systems that can be reliably debugged and improved, and (e) contributing to the training of future researchers and practitioners in SE4AI through mentorship, collaboration, and knowledge dissemination.

🎓 EDUCATION

Doctor of Philosophy, Computer Science   **January 2023 – Present**
Dalhousie University, Halifax, NS, Canada
Advisors: Dr. Masud Rahman & Dr. Foutse Khomh
CGPA: 4.25/4.30
Thesis: Automated Reproduction of Deep Learning Bugs Leveraging Agentic AI (tentative)

Bachelor of Technology, Computer Science and Engineering   **August 2016 – July 2020**
Manipal University Jaipur, Jaipur, India
CGPA: 9.56/10.00
Thesis: NPQuant: A Robust Quantum Inspired Computation Algorithm as an Efficient Solution to NP-Complete Problems.

📖 PUBLICATIONS

Note: * = A* conference, **Bold** = A category conference or journal in software engineering according to CORE

[**2026**]

[10] **M. B. Shah**, M. Masudur Rahman, and F. Khomh, "Imitation Game: Reproducing Deep Learning Bugs Leveraging an Intelligent Agent", In Proceedings of *The 48th IEEE/ACM International Conference on Software Engineering* (**ICSE***), Rio de Janeiro, Brazil, 2026. (Acceptance Rate: 21.9%)

[9] **M. B. Shah**, M. Masudur Rahman, and F. Khomh, "Towards Understanding the Impact of Data Bugs on Deep Learning Models in Software Engineering", Journal-First presentation at *The 48th IEEE/ACM International Conference on Software Engineering* (**ICSE***), Rio de Janeiro, Brazil, 2026.

[8] S. Jahan, **M. B. Shah**, and M. Masudur Rahman, "Towards Understanding the Challenges of Bug Localization in Deep Learning Systems", Journal-First presentation at *The 48th IEEE/ACM International Conference on Software Engineering* (**ICSE***), Rio de Janeiro, Brazil, 2026.

[Under Review & Pre-submission]

M. B. Shah, M. M. Morovati, M. Masudur Rahman, and F. Khomh, "From Faults to Fixes: A Comprehensive Study of Bugs in Agentic Systems", To be submitted to *ACM Transactions on Software Engineering and Methodology* (**TOSEM***). (Impact Factor: 6.6)

[2025]

[7] **M. B. Shah**, M. Masudur Rahman, and F. Khomh, "Towards Enhancing the Reproducibility of Deep Learning Bugs: An Empirical Study", Journal-First presentation at *The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering* (**FSE***), Trondheim, Norway, 2025.

[6] **M. B. Shah**, M. Masudur Rahman, and F. Khomh, "Towards Enhancing the Reproducibility of Deep Learning Bugs: An Empirical Study", *Empirical Software Engineering Journal* (**EMSE**), vol. 30, no. 1, article 23, 2025. (Impact Factor: 4.5)

[5] **M. B. Shah**, M. Masudur Rahman, and F. Khomh, "Towards Understanding the Impact of Data Bugs on Deep Learning Models in Software Engineering", *Empirical Software Engineering Journal* (**EMSE**), vol. 30, article 168, 2025. (Impact Factor: 4.5)

[4] S. Jahan, **M. B. Shah**, and M. Masudur Rahman, "Towards Understanding the Challenges of Bug Localization in Deep Learning Systems", *Empirical Software Engineering Journal* (**EMSE**), 2025. (Impact Factor: 4.5)

[3] S. Jahan, **M. B. Shah**, P. Mahbub, and M. Masudur Rahman, "Improved Detection and Diagnosis of Faults in Deep Neural Networks Using Hierarchical and Explainable Classification", In Proceedings of *The 47th IEEE/ACM International Conference on Software Engineering* (**ICSE***), Ottawa, Canada, 2025. (Acceptance Rate: 21.3

[2024]

[2] B. Devi, **M. B. Shah**, V. G. Shankar, and G. Sharma, "NPQuant: A Robust Quantum-Inspired Computation Algorithm as an Efficient Solution to NP-Complete Problems", In Proceedings of *The International Conference on Cyber Warfare, Security and Space Computing*, pp. 302–313, 2024.

[2019]

[1] **M. B. Shah**, M. Kaistha, and Y. Gupta, "Student Performance Assessment and Prediction System Using Machine Learning", In Proceedings of *The 4th International Conference on Information Systems and Computer Networks* (ISCON), pp. 274–279, 2019.

🏆 AWARDS & HONOURS

[9] **[2025] Distinguished Reviewer Award (Shadow PC, ICSE 2026):** Recognized for delivering high-quality, constructive, and timely reviews for the Shadow Track of the 48th International Conference on Software Engineering.

[8] **[2025] Student Volunteer Award (ICSE 2025):** Awarded complimentary registration valued at $2,000 CAD to the 47th International Conference on Software Engineering, including access to co-located conferences and workshops.

[7] **[2025] ACM SIGSOFT CAPS Award:** Awarded $800 USD to support travel and presentation of accepted research at the ACM International Conference on the Foundations of Software Engineering (FSE 2025) in Trondheim, Norway.

[6] **[2025] CGRS-D Nomination:** Nominated by Dalhousie University as an institutional nominee for the national Canada Graduate Scholarships–Doctoral (CGRS-D) competition, based on a doctoral research proposal focused on Agentic AI.

[5] **[2025] Best Paper Presentation Award:** Awarded at CSER 2025, Halifax, Canada for the poster "Towards Enhancing the Reproducibility of Deep Learning Bugs".

[4] **[2022] Client Appreciation Award:** Awarded by Accenture for Client Value Creation and Outstanding Dependability.

[3] **[2020] Fast-track Promotion:** Promoted to Analyst at Accenture for exemplary work and outstanding deliverables.

[2] **[2018] First Place (Codeathon):** Secured first place at the competitive programming competition organized by IEEE MUJ.

[1] **[2016] Second Place (TopCoder Hackathon):** Awarded for developing an innovative smart garbage collection system.

⬛ RESEARCH GRANTS

[2] **[2025] Mitacs Lab2Market Validate (Under Review)**

Title	RepGen: Automated Deep Learning Bug Reproduction
Role	Principal Applicant
Amount	$10,000

[1] **[2025] Dalhousie Research Equipment Fund (Awarded)**

Title	Automated Debugging for AI-Powered Software
Role	Collaborator (PI: Dr. Masud Rahman)
Amount	$15,000

✳ SCHOLARSHIPS

[4] **[2025] Performance Topup:** Awarded $1,000 CAD in Winter 2025 for strong academic performance.

[3] **[2023] Dalhousie PhD Scholarship:** Fully-funded admission (fees and living expenses) to the Faculty of Computer Science. Total value: $108,000 CAD (4 Years).

[2] **[2016 – 2020] TMA Pai Merit Scholarship:** Awarded 50% fee waiver (≈10,000 CAD) during the entire tenure of undergraduate studies (Rank 4868 in qualifying exams).

[1] **[2016] Bhukhanwala Scholarship:** Awarded INR 52,000 (≈800$) for securing the highest grades in Class 12th examinations.

💡 RESEARCH AREAS

Automated Reproduction of Deep Learning Bugs

Deep learning bugs are notoriously difficult to reproduce, with only approximately 3% being readily reproducible from their initial bug reports. My research on automated bug reproduction follows a systematic progression from understanding the problem space to building practical solutions. I began by investigating data bugs—one of the most prevalent categories of deep learning failures—and their impact on model behavior and ML pipelines (**EMSE'25**). This foundational work revealed how data quality issues manifest and propagate through deep learning systems. Building on these insights, I conducted a comprehensive empirical study of 668 deep learning bugs to understand what information developers need to reproduce failures (**EMSE'24**). This investigation identified ten core edit actions and five critical component information types essential for successful reproduction, validated through studies with 22 professional developers who achieved a 24.35% reduction in reproduction time and 22.92% improvement in success rates when provided with this structured information. Armed with this empirical understanding, I developed RepGen (**ICSE'26**), a learning-enhanced agentic system that automatically reproduces deep learning bugs using an iterative generate–validate–refine pipeline powered by large language models. RepGen analyzes bug reports and repository context to synthesize reproduction code, executes it to validate bug manifestation, and iteratively refines its approach based on execution feedback. The system successfully reproduced 80% of 106 real-world bugs from diverse projects, with practical utility validated by 27 practitioners from industry and academia, demonstrating how agentic AI can transform bug reproduction from a manual, time-consuming process into an automated, efficient workflow.

Automated Localization of Deep Learning Bugs

Deep learning programs present unique challenges for fault localization, with bugs potentially originating from data processing pipelines, model architecture definitions, training procedures, or inference logic across thousands of lines of code. Our research on understanding these localization challenges began with a large-scale empirical study analyzing 2,365 deep learning bugs to characterize the fault localization problem in DNN programs (**EMSE'25**). Unlike traditional software, deep learning systems exhibit complex failure modes where the relationship between symptoms and root causes is often non-obvious. This study identified common failure patterns, analyzed how bugs manifest across different components, and revealed why conventional localization techniques often fail in the deep learning context, highlighting the need for hierarchical reasoning that considers both code-level and component-level fault sources. Building on these empirical insights, we developed DEFault (**ICSE'25**), a hierarchical fault detection and diagnosis framework for deep neural network programs. DEFault employs a two-stage classification approach that first identifies the high-level component responsible for the failure, then pinpoints the specific fault within that component. By combining neural network architectures with explainable AI techniques, DEFault enables structured reasoning over failure causes and provides developers with actionable diagnostic information. The framework achieved 94% recall in fault localization and outperformed state-of-the-art techniques by up to 11.54%, demonstrating the effectiveness of hierarchical approaches informed by empirical understanding of deep learning bug characteristics.

💼 EMPLOYMENT HISTORY

Research Assistant   **January 2023 – Present**

RAISE Lab, Dalhousie University, Halifax, NS, Canada
Advisor: Dr. Masud Rahman

Conducting doctoral research at the intersection of Software Engineering and Artificial Intelligence, focusing on improving the reliability, debuggability, and maintainability of deep learning and agentic AI systems. Research encompasses empirical studies of bug characteristics, automated tool development, and validation with industry practitioners.

Research Areas & Contributions:

1. Automated Reproduction of Deep Learning Bugs
Publications: ICSE'26, FSE'25 (JF), EMSE'25, EMSE'24
My research addresses the critical challenge that only ~3% of deep learning bugs are readily reproducible. I began by investigating how data quality issues propagate through ML pipelines and impact model performance (**EMSE'25, ICSE'26 JF**), then constructed a dataset of 668 bugs to identify the ten core edit actions and five component information types essential for reproduction (**EMSE'24, FSE'25 JF**). Validation with 22 developers showed 24.35% faster reproduction and 22.92% higher success rates. Building on these insights, I developed RepGen (**ICSE'26**), an LLM-based agentic system using an iterative *generate–validate–refine* pipeline that automatically reproduces bugs. RepGen achieved 80% success on 106 real-world bugs, validated by 27 practitioners.

2. Automated Localization of Deep Learning Bugs
Publications: ICSE'26 (JF), ICSE'25, EMSE'25
Our research tackles fault localization in deep learning programs where bugs can originate from data pipelines, model architectures, or training procedures. We analyzed 2,365 bugs to characterize localization challenges, identifying failure patterns and explaining why conventional techniques fail in DNN contexts (**EMSE'25, ICSE'26 JF**). We then developed DEFault (**ICSE'25**), a hierarchical framework using two-stage classification with explainable AI to identify faulty components and pinpoint specific faults. DEFault achieved 94% recall, outperforming state-of-the-art by up to 11.54%.

Senior Software Engineer (Senior Analyst)   **August 2020 – December 2022**
Accenture, Pune, India

Served as a Backend and DevOps Engineer in the E2E Banking Team for a major German multinational investment bank and financial services company. Promoted to Analyst on fast-track criteria for performance excellence and outstanding deliverables. Led critical development initiatives supporting financial products serving over 27 million users worldwide.

Key Responsibilities & Contributions:

- **Backend System Development:** Designed, developed, and maintained scalable backend microservices and RESTful APIs for mission-critical banking products including Account Opening and Self-Services platforms using Java, Spring Boot, and Node.js/NestJS architectures.

- **DevOps & Release Management:** Led monthly release management processes, creating release candidates and orchestrating deployments to Integration and User Acceptance Testing environments using Jenkins CI/CD pipelines and OpenShift containerization, ensuring zero-downtime deployments.

- **Security & Authentication Systems:** Co-developed a secure, scalable OTP verification system using Node.js and Hazelcast alongside lead developers, implementing distributed caching and high-availability patterns to handle millions of authentication requests.

- **Low-Code Platform Contribution:** Active contributor to dbCORE, dbCOMPONENTS, and dbProcessEditor—proprietary low-code solutions enabling non-technical stakeholders to build products independently, achieving 50% reduction in time-to-market for certain banking products.

- **Legacy System Modernization:** Enhanced legacy applications by implementing new features using Angular frontend framework and modern system design principles, improving user experience and system maintainability.

- **System Architecture:** Contributed to system architecture design and documentation, proposing improvements to enhance scalability, reliability, and performance of existing banking infrastructure.

Research Trainee   **Jan 2020 – May 2020**
Indian Space Research Organization (ISRO), Bengaluru, India

Worked on Quantum Computing initiatives under the guidance of Dr. Yogesh Prasad. Proposed "NPQuant," a novel approximation-based algorithm for NP-Complete problems (MaxClique, MaxCut), published at SpaceSec '24. Implemented digital circuits using Quantum Gates to test algorithmic efficiency.

Summer Intern   **June 2019 − July 2019**
Manipal Institute of Technology, Manipal, India
Engineered web applications using the Flask framework, integrating RESTful APIs and machine learning models into production. Developed responsive front-end interfaces using HTML5, CSS3, JavaScript, and Bootstrap. Implemented ML model integration pipelines to enable real-time predictions through web interfaces.

Technical Analyst Intern   **May 2018 − July 2018**
Motilal Oswal Financial Services Ltd, Mumbai, India
Built two Python-based trading models leveraging machine learning algorithms for market prediction and risk assessment. Developed trading strategies using technical indicators (Bollinger Bands, RSI, MACD) to optimize entry/exit points. Collaborated with senior traders to identify profitable opportunities across multiple market sectors.

⊞ MEDIA MENTIONS & PUBLICITY

Bugs and Artificial Intelligence: What is Happening in the Field of Software Engineering? Sep 2025
Futurum Careers
Featured article highlighting the RAISE Lab's research on the intersection of AI and software reliability. Discusses the critical challenges of deep learning bugs and the development of automated debugging agents like *RepGen* and *DEFault* to address them.

✎ JOURNAL REVIEWER & EDITOR

[3] ACM Transactions on Software Engineering and Methodology (TOSEM)
Reviewer since   November 2025
Reviewed   02

[2] IEEE Transactions on Computers
Reviewer since   November 2025
Reviewed   01

[1] Information and Software Technology
Reviewer since   August 2025
Reviewed   01

👥 PC / OC MEMBER

[2026]

[10] **Web Co-Chair:** The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2026).

[9] **PC Member:** The 33rd IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2026), Short Papers & Posters Track.

[8] **PC Member:** The 33rd IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2026), Industry Track.

[7] **PC Member:** The 42nd IEEE International Conference on Software Maintenance and Evolution (ICSME 2026), Tool Demonstration & Showcase Track.

[6] **Shadow PC Member:** The 48th IEEE/ACM International Conference on Software Engineering (ICSE 2026) **(Distinguished Reviewer Award)**.

[2025]

[5] **Web Co-Chair:** The 34th International Joint Conference on Artificial Intelligence (IJCAI 2025).

[4] **Web Co-Chair:** The 32nd IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2025).

[3] **PC Member:** The 4th Deep Learning for Code Workshop at NeurIPS 2025 (DL4C 2025).

[2] **PC Member:** The 35th IEEE International Conference on Collaborative Advances in Software and Computing (CASCON 2025), Artifact Evaluation Track.

[2024]

[1] **Junior PC Member:** The 21st International Conference on Mining Software Repositories (MSR 2024).

[2023–2025]

Sub-reviewer: ICSE, ASE, ESEC/FSE, SANER, ICSME, MSR.

Sub-reviewer: IEEE Transactions on Software Engineering (TSE), ACM Transactions on Software Engineering and Methodology (TOSEM), Journal of Systems and Software (JSS).

⚒ TOOL & TECHNOLOGY EXPERIENCE

Programming Languages: C, C++, Java, Python, JavaScript, HTML, CSS.
Frontend Technologies: React, Next.js, Redux, Angular, Bootstrap, Tailwind CSS.
Backend Frameworks & Libraries: Node.js, NestJS, Express, Spring Boot, JUnit, Mockito.
AI, ML & Deep Learning: PyTorch, TensorFlow, Keras, Hugging Face Transformers, CUDA, Reinforcement Learning.
Agentic AI & LLM Frameworks: LangChain, AutoGen, OpenAI APIs, Tool-Calling Agents, Multi-Agent Systems, Prompt Engineering.
Data & Databases: MySQL, MongoDB, Pandas, NumPy.
MLOps & Experimentation: MLflow, Model Versioning, Reproducible Training Pipelines.
DevOps & Infrastructure: Linux, Git, NPM, Maven, TeamCity, Jenkins, Docker, Kubernetes, CI/CD Pipelines.

🤝 COLLABORATIONS

[3] **Mozilla, Canada & Mozilla, UK**

    Duration August 2025 – Present
  Collaborator Dr. Suhaib Mujahid & Dr. Marco Castelluccio
    Outcome Currently building foundation models and agents for SE tasks

[2] **Polytechnique Montreal**

    Duration June 2025 – Present
  Collaborator Dr. Mohammad Mehdi Morovati

Outcome 1 x TOSEM (Pre-submission)

[1] **Dalhousie University**

Duration January 2024 – August 2025
Collaborator Sigma Jahan
Outcome 1 x ICSE'25, 1 x EMSE'25

⚒ LEADERSHIPS & SERVICES

VP Finance and Operations, DOGS
Responsibilities: Managed budget planning and allocation, oversaw operational logistics, coordinated events and workshops, and ensured compliance with organizational policies to support the society's activities effectively.

Director of Science and Computer Science, DAGS
Responsibilities: Led initiatives to promote science and computer science engagement among students, organized seminars and competitions, mentored student projects, and facilitated collaborations between departments and external partners.

Student Volunteer: ICSE 2025, CSER 2025
Responsibilities: Assisted with conference organization, session management, registration, and logistical support to ensure smooth execution of technical sessions and workshops.

Campaigns & Outreach Coordinator, Gramiksha
Responsibilities: Led volunteer recruitment and community outreach for a youth-focused NGO, managing digital campaigns (Instagram) and direct engagement to promote skill-building programs and expand organizational impact.

[**Professional Membership**]
• ACM SIGSOFT Membership (2025 – Present)
• IEEE Membership (2025 – Present)

💬 TALKS, POSTERS, & DEMOS (9)

[**2026**]

[8] **M. B. Shah**. 2026, "Imitation Game: Reproducing Deep Learning Bugs Leveraging an Intelligent Agent", ICSE, Rio de Janeiro, Brazil.

[7] **M. B. Shah**. 2026, "Towards Understanding the Impact of Data Bugs on Deep Learning Models in Software Engineering", ICSE (Journal-First), Rio de Janeiro, Brazil.

[**2025**]

[6] **M. B. Shah**. 2025, "Towards Enhancing the Reproducibility of Deep Learning Bugs: An Empirical Study", **Poster Presentation**, CSER, Halifax, Canada. (**Best Paper Presentation Award**)

[5] **M. B. Shah**. 2025, "Towards Enhancing the Reproducibility of Deep Learning Bugs: An Empirical Study", FSE (Journal-First), Trondheim, Norway.

[**2024**]

[4] **M. B. Shah**. 2024, "Towards Enhancing the Reproducibility of Deep Learning Bugs: An Empirical Study", **Poster Presentation**, SEMLA, Montreal, Canada.

[3] **M. B. Shah**. 2024, "NPQuant: A Robust Quantum-Inspired Computation Algorithm as an Efficient Solution to NP-Complete Problems", International Conference on Cyber Warfare, Security and Space Computing.

[2023]

[2] **M. B. Shah**. 2023, "How do Software Bugs Affect the Siamese Neural Network? An Empirical Study", Research Day Presentation - Systems Cluster (Dalhousie University), Halifax, Canada.

[2019]

[1] **M. B. Shah**. 2019, "Student Performance Assessment and Prediction System Using Machine Learning", ISCON, Mathura, India.

⟨/⟩ DEVELOPED SOFTWARE TOOLS & PROTOTYPES (2)

[2] RepGen   *debugging-automation*

Overview: An LLM-based agentic system for automatically reproducing deep learning bugs. RepGen employs an iterative generate–validate–refine pipeline that synthesizes reproduction code by leveraging bug reports, repository context, and execution feedback. Successfully reproduced 80% of 106 real-world bugs with practical utility validated by 27 practitioners.

Availability: Replication package (Under development)

Publications: ICSE 2026

Impact: Addresses the critical challenge that only ∼3% of deep learning bugs are readily reproducible, significantly improving developer productivity in debugging AI systems.

[1] DEFault   *debugging-automation*

Overview: A hierarchical fault detection and diagnosis framework for deep neural networks. DEFault employs a two-stage classification approach combining neural network architectures with explainable AI techniques to localize faults at component level with 94% recall. The framework enables structured reasoning over failure causes in DNN programs.

Availability: Replication package

Publications: ICSE 2025

Impact: Outperformed state-of-the-art localization techniques by up to 11.54%, providing developers with actionable insights for debugging deep learning systems.

🖥 TEACHING

My teaching philosophy centers on creating an inclusive, engaging learning environment where students develop both technical competence and critical thinking skills. Drawing from my experience as Head TA and TA across 17 course offerings, I believe effective teaching in computer science requires three core principles: **accessibility**, **active engagement**, and **practical application**. I strive to make complex software engineering concepts accessible by breaking them down into manageable components, using real-world examples, and encouraging students to build connections between theoretical knowledge and practical implementation. Through weekly tutorials, office hours, and individualized mentoring, I foster an environment where students feel comfortable asking questions and exploring ideas collaboratively. I emphasize hands-on learning through carefully designed lab exercises and projects that mirror industry challenges, helping students understand not just how to write code, but how to design, test, and maintain robust software systems. As I transition from my PhD to a research career, I aim to continue this student-centered approach in both teaching and mentoring, preparing the next generation of software engineers to tackle the complex challenges of AI-powered systems with confidence, rigor, and ethical responsibility.

Teaching Summary: Served as Head TA and TA across 17 course offerings at Dalhousie University, teaching over 1,500 students in software engineering, advanced software development, and software project courses.

Head Teaching Assistant		*Dalhousie University*
Fall 2025	CSCI 3130 - Software Engineering	*Enrollment: 118*
Summer 2025	CSCI 3130 - Software Engineering	*Enrollment: 42*
Summer 2024	CSCI x691 - Project Courses	*Enrollment: 97*

Responsibilities: Led teams of 3–5 teaching assistants, coordinated grading and tutorial sessions, designed lab exercises and assignments, held regular office hours for student support, mentored junior TAs on pedagogical best practices, and ensured consistent course delivery across multiple sections.

Teaching Assistant		*Dalhousie University*
Winter 2025	CSCI 3130 - Software Engineering	*Enrollment: 134*
Winter 2025	CSCI 5308 - Advanced Software Development	*Enrollment: 46*
Fall 2024	CSCI 3130 - Software Engineering	*Enrollment: 121*
Fall 2024	CSCI 5308 - Advanced Software Development	*Enrollment: 82*
Fall 2024	CSCI x691 - Project Courses	*Enrollment: 104*
Winter 2024	CSCI 5308 - Advanced Software Development	*Enrollment: 79*
Fall 2023	CSCI x691 - Project Courses	*Enrollment: 98*
Winter 2023	CSCI 3130 - Software Engineering	*Enrollment: 143*
Winter 2023	CSCI x691 - Project Courses	*Enrollment: 99*
Summer 2023	CSCI 3130 - Software Engineering	*Enrollment: 37*

Responsibilities: Conducted weekly tutorials for 100+ students per term, provided individualized mentoring and academic support, graded assignments and examinations with detailed feedback, actively participated in course forums to address student queries, and collaborated with faculty on course material development.

Marker		*Dalhousie University*
Summer 2024	CSCI 6409 - Process of Data Science	*Enrollment: 83*

Responsibilities: Evaluated graduate-level assignments and projects, provided comprehensive feedback to enhance student learning, and maintained grading consistency and fairness across all course sections.

Teaching Impact:

- Taught and mentored over 1,500 students across 17 course offerings spanning 3 years.

- Maintained consistently high teaching quality and positive student feedback across evaluated courses.

- Developed pedagogical skills in software engineering education, from introductory to graduate-level courses.

- Demonstrated leadership in teaching through Head TA roles managing multi-TA teams.

PROFESSIONAL REFERENCES

(1) Dr. Mohammad Masudur Rahman

Associate Professor, Dalhousie University, Canada
Email: masud.rahman@dal.ca

(2) Dr. Foutse Khomh

Professor, Polytechnique Montreal, Canada
Email: foutse.khomh@polymtl.ca

(3) Dr. Tushar Sharma

Assistant Professor, Dalhousie University, Canada
Email: tushar@dal.ca

(4) Mr. Nikhil Yadav

VP (Technology), Deutsche Bank, Frankfurt
Email: nikhilyadav3@gmail.com