

# Mohammad Abdul Hadi

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## CONTACT

1325 Aldon Road  
Kelowna, BC V1X 5A1  
Canada

**E-mail:** mohammad [dot] hadi [at] ubc [dot] ca  
**LinkedIn:** linkedin.com/in/mohammad-abdul-hadi/  
**Website:** sites.google.com/view/mohammad-hadi/  
**Portfolio:** https://mohammad-abdul-hadi.github.io/  
**Phone:** +1 250 899 6971

## OBJECTIVE

I want to expand my area of expertise and experience by employing my skills. I aim to employ Artificial Intelligence, Machine Learning that incorporates Augmented and Virtual Reality, Robotics, and Data Visualization to solve critical problems through the innovative applications of various analytical tools and meticulously devised algorithms.

## EDUCATION

**Master's in Computer Science (Pursuing)** **Sep 2019 — Aug 2021**

The University of British Columbia, BC, Canada

Supervisor: Dr. Fatemeh H. Fard

The field of my research encompasses a broad domain of Machine Learning and Software Engineering. I aim to build AI-driven intelligent software products and components to deal with crucial problems for individuals and the community.

**BS in Computer Science and Engineering**

**May 2014 – May 2018**

North South University, Dhaka, Bangladesh

CGPA: 3.99 / 4.00 (1st position in Engineering Dept.)

Summa Cum Laude, Vice Chancellor's Gold Medalist

## SCHOLARSHIPS/ AWARDS/ ACCOLADES

- University Graduate Fellowship (UBC-2020)
- Dean's Entrance Scholarship (UBC-2019)
- Vice Chancellor's Gold Medal (NSU-2019)
- Faculty Research Grant (EU-2018)
- Senior Project Design Grant (NSU-2018)
- 100% Undergraduate Scholarship (NSU-2014)
- Secondary School Certificate Scholarship (CCS-2010)
- Junior School Certificate Scholarship (SBK-2004)

## TECHNICAL- KNOWLEDGE

- **Languages:** C, C++, C#, Java, SQL, Python, Assembly, Verilog, R
- **Web and Scripts:** ASP, PHP, JavaScript, D3.js, Node.js, JSON, AJAX, HTML, CSS
- **Frameworks:** ASP.NET, Laravel, Bootstrap, OOPHP
- **Tools:** MATLAB, Logisim, Micro-wind, Pspice, emux8086

## KEY ATTRIBUTES

- Determined to make a difference to individual and communities
- Fastidious, urbane, articulate with excellent communication skills
- Self-Motivational, quick learner, patient, approachable and non-judgmental
- Willing to step outside the comfort zone
- Always on my way to take challenges and unlock my potential

## WORK EXPERIENCE

**The University of British Columbia, BC, Canada**      **Sep 2019 — Aug 2021**

Research Assistant

- Machine Learning
- Software Engineering
- Natural Language Processing
- Data Visualization

Teaching Assistant

- COSC 328: Computer Networking
- COSC 304: Database Management System
- COSC 341: Human-Computer Interaction

**Niedner Inc.**

**Jan 2020 – Jun 2020**

Software Developer Intern

**Project:** "Modeling and optimization of woven composite hydraulic tubes, to reduce in-service defects and failures—Phase II."

**Supervisors:** Dr. Abbas S. Milani; Dr. Fatemeh H. Fard, UBC

**Eastern University, Dhaka, Bangladesh**

**Jul 2018 — Aug 2019**

Lecturer, Department of Computer Science and Engineering

Courses Taught:

- Mathematical Analysis for CS
- Digital Logic Design
- Structural Programming (C, JAVA)
- Computer Architecture
- Web Programming
- Design and Analysis of Algorithm
- Software Engineering

**North South University, Dhaka, Bangladesh**

**Aug 2016 — Aug 2019**

Lab Instructor, Department of Electrical and Computer Engineering

- Computer Organization and Architecture
- Programming Language II - Java
- Database Systems
- Digital Logic Design
- Microprocessor, Micro-controller and Peripheral Devices

Teaching Assistant, Department of Electrical and Computer Engineering

- Introduction to VLSI design.
- Introduction to frameworks for web-development

Teaching Assistant, Department of English and Modern Languages

- Introduction to Composition
- Introduction to Advanced Intermediate Compositions
- Introduction to Fiction and Creative Storytelling

**AntTech, Dhaka, Bangladesh**

**Feb 2016 — Jan 2018**

Apprentice Software Engineer

- Web development
- Social Media Portal Development
- Enterprise Mobile app development

## **VOLUNTEER EXPERIENCE**

### **International Conference in Software Engineering, 2020 (ICSE-2020)**

**Jun 2020 – Jul 2020**

#### **Student Volunteer**

Student Volunteers (SV) managed sessions at different time slots around the globe. SVs were given training on new technologies so that we could be part of large-scale production. SVs helped to organize live streaming and online Q&A.

### **Archer K. Blood Library and EMK Center, USA Embassy, Dhaka, Bangladesh**

**Mar 2018 – Aug 2018**

#### **Workshop Designer & Instructor**

- Conducting several workshops to develop specific technical skills within the underprivileged Bangladeshi community.
- Technological Soft-Skill development programs for teenagers and preteens.

### **NSU ACM Student Chapter North South University, Dhaka, Bangladesh**

**Jul 2017 – Mar 2018**

#### **Programming Tutor and Workshop Designer**

- Design, Implementation, and Analysis of Algorithms
- Basic and Object-Oriented Programming
- Problem Solving using C, C++, Java, Python

## **PUBLICATIONS**

- M. A. Hadi, F. H. Fard. 2020. AOBTM: Adaptive Online Biter Topic Modeling Algorithm for Version Sensitive Short Texts Analysis. IEEE ICSME 2020.
- M. A. Hadi, F. H. Fard. 2020. ReviewViz: Assisting Developers Perform Empirical Study on Energy Consumption Related Reviews for Mobile Applications. in proceeding ACM MOBILESoft 2020.
- M. A. Hadi, F. H. Fard. 2020. Geo-Spatial Data Visualization and Critical Metrics Predictions for Canadian Elections. IEEE CCECE, 2020.

## **PROJECT EXPERIENCE (1/2)**

- AOBTM: Adaptive Online Biterm Topic Modeling Algorithm for Version Sensitive Short Texts Analysis (2020)
- Empirical Study for Text Classification and Topic Modeling for Energy Consumption Related Reviews in Google Play-store (Current Project - 2020)
- Review Viz: Assisting Developers Perform Empirical Study on Energy Consumption Related Reviews for Mobile Applications (2020)
- Geo-Spatial Data Visualization and Critical Metrics Predictions for Canadian Elections (2020)
- We have designed a visualization tool that illustrates the propagation of spurious hadiths among narrators. The tool also tags the propagation points with some recorded events (e.g., wars, personal/clan dispute). We have studied user reflection on Hadiths (quotes from Prophet Muhammad (PBUH)) after their exposure to our visualization tool. We suspected that these tagged events could have provoked aberrant dissemination of particular quotes, making them the most popular and referenced throughout history. (2019)

## PROJECT EXPERIENCE (2/2)

- A web application that proposes varying consultation fees for doctors in their private practices depending on several parameters (e.g., severity and ubiquity of the diagnosed disease, the effort put into detecting the disease, patients' perceptions on doctors' behavior). Used fuzzy logic classification and Linear Discriminant Analysis as the parameters can be perceived differently throughout the entire user population. (2019)
- We developed a pet-robot for blind people with autonomous navigation implementing Simultaneous Localization and Mapping (SLAM) algorithms. We have used 3DDepth Camera: For mapping, an XBOX-360 Kinect is being used; LIDAR: For localization, a Neato XV-11 LIDAR is being used. The whole system is based on Linux Operating System. (2018)
- We have developed a portal for immigrant donor outreach to help students in need. Currently in pursuit of upgrading it to support other humanitarian services. (<https://www.serve-bd.org/>) (2018)
- Developed a warehouse management system and a portal for "Teachers' Association" for a Chittagong City Corporation. (Beta version for the latter is available at [ccctactg.org](http://ccctactg.org)) (2017)
- Developed a course advising system for North South University implementing a Bidding Approach coupled with Gale-Shapley Student Deferred Acceptance algorithm in Web Technology course. (2017)
- Developed an improved version of "Takeaki Uno's Quasi Clique Density Prediction algorithm" (2017)
- Developed a custom Script for PCB Optimization. (2017)
- Built an Aeroplane turbulence detection device capable of measuring simultaneous Passengers' heartbeat using the "Inertial Measurement Unit" in the Operating System course to predict stressful conditions. (2016)
- Developed a POS system in the Software Engineering course. (2016)
- Built a low-cost Braille device with Arduino micro-controller in the Digital and Microprocessor Interfacing course. (2016)
- Developed a 4-Bit ALU with 16 operations in the Digital and Microprocessor Design Lab course and implemented it within the micro-programmed basic computer. (2016)

## REFERENCES

### Dr. Fatemeh Hendijani Fard

Assistant Professor  
(Ph.D., University of Calgary)  
Computer Science, Data Science  
The University of British Columbia  
Office: SCI 115  
Phone: 250.807.9607  
Email: [fatemeh.fard@ubc.ca](mailto:fatemeh.fard@ubc.ca)

### Dr. Abbas Milani

Professor  
(Postdoctoral, MIT;  
Ph.D., University of McGill)  
Mechanical Engineering  
The University of British Columbia  
Office: EME 4203  
Phone: 250.807.9652  
Email: [abbas.milani@ubc.ca](mailto:abbas.milani@ubc.ca)

### Dr. Mohammad Khalad Hasan

Assistant Professor  
(Ph.D., University of Manitoba)  
Computer Science, Data Science  
The University of British Columbia  
Office: SCI 260  
Phone: 250.807.8077  
Email: [khalad.hasan@ubc.ca](mailto:khalad.hasan@ubc.ca)