Md Moniruzzaman

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RESEARCH AND TEACHING AREAS OF INTEREST (Data Science and Analytics):

Database management, Business Analytics, Business Intelligence, Data mining, Data Science using Python, Predictive Analytics, Artificial Intelligence Applications, Machine Learning, Big data for business and policy making, Digital Marketing and Web Analytics, Marketing & Forecasting, Mobile Computing, Cloud computing, Internet of Things (IoT), Quantitative and Qualitative research, International Business Development, Digital governance, International trade management, Managing innovation in non-profit enterprises.

KEY SKILLS:

Over twenty (20) years of progressively responsible professional experience across public sector institutions (e.g., Government of Saskatchewan in Canada, Port of Los Angeles, Government of Bangladesh), private enterprises (including a Fortune 500 company), international development organizations (e.g., World Bank, European Union), and academic institutions. This experience spans leadership, consultancy, policy development, and education-focused initiatives.

EDUCATION

Academic Degrees:

Claremont Graduate University, Claremont, CA — **May, 2024**

Ph.D., Information System & Technology, Data Science Concentration

CISAT, Claremont Graduate University — **Dec 2020**

M.Sc. in Information System & Technology

Johnson Shoyama Graduate School of Public Policy, University of Regina, Canada — **May 2012**

Master of Public Administration, Public Policy

University of Dhaka, Bangladesh — **Jun 2008**

Master of Business Administration, Marketing

Towson University, Maryland — **Dec 2001**

Master of Computer Science

Bangladesh University of Engineering & Technology — **Jun 1996**

Bachelor of Engineering (Mechanical)

Professional Certifications:

Microsoft Certified Professional (MCP) **May 2003**

Academic Portfolio

1) 1) Assistant Professor of Practice, Information System & Analytics, McCoy School of Business
   Courses Taught:
   ANLY 5334 - Statistical Methods
   ISAN 5357 - Computing for Data Analytics
   ISAN 5364 - Data Warehousing (Snowflake)
   ANLY 3330 - Introduction to Analytics

2) Assistant Teaching Professor, Management Information system & Business Analytics, Albers School of Management, Seattle University
   Courses Taught:
   BUAN 5305-Database Management for Business Analytics
   BUAN 4210, Programming and Data Management for Data Analytics
   OMSBA 5500, Capstone Project in Business Analytics
   OMSBA 5145 Database systems

   Accomplishments:

   - Led the development of the course Data Management for Business Analytics, designing a structured, industry-relevant curriculum aligned with current enterprise data practices.
   - Redesigned Programming and Data Management for Data Analytics to focus on hands-on learning using real-world business scenarios, incorporating SQL, Python, and cloud-based tools.
   - Introduced and coordinated a new Capstone Project course centered on Healthcare Analytics, enabling graduate students to apply data science techniques to improve outcomes and decision-making in real healthcare settings.

3) Lecturer, Information System, School of Business, University of California, Riverside,

   Courses Taught:
   MGT 286 A &B – Capstone in Business Analytics (Graduate Course)
   MGT 282 – Data Communication using Python
   BUS 110 - Introduction to Data Mining and Visual Analytics
   BUS 163 - Technology Entrepreneurship BUS 174 - Electronic Commerce
   BUS 172 - Information Economics
   BUS 173 – Introduction to Database for Management

Accomplishments:

- Introduced Capstone course for graduate students for experiential learning.
- Revised data mining course by transforming towards more hands-on exercises using contemporary and on-demand business intelligence tools (Tableau, Rapid Miner, Microsoft Azure).

4) Lecturer, Computer Information System and Business Analytics, College of Business, MSU Denver,

Courses taught:
CIS 1010 – Introduction to Computer
CIS 2010 – Foundation of Information System
CIS 3300 & 3320 - Business Analytics I & II
CIS 4370 - Data Science and Big Data using Python.

Accomplishments:

- Led complete curricular development for *Introduction to Computer*, *Foundation of Information System*, and *Business Analytics I & II*, including designing course objectives, creating instructional materials, and developing assessments aligned with industry competencies.
- Developed and implemented all course materials (lectures, labs, and evaluations) to support student-centered and skill-based learning in Business Analytics.
- Redesigned *Data Science and Big Data using Python* to emphasize practical applications of Python programming, big data processing, and machine learning tools using real-world datasets.

5) Adjunct Faculty, Information System, College of Business, California State University, Long Beach

Courses Taught:
IS 602 - Management of Information System
IS 470 - Business Intelligence
IS 320 - Spreadsheet Modeling for Business and Management

Accomplishments:

- Delivered core instruction for *Management of Information Systems*, integrating case-based learning to explore enterprise-level IT strategy and systems implementation.
- Designed and implemented hands-on labs and assignments for *Business Intelligence*, emphasizing data-driven decision-making using tools like Tableau and Power BI.
- Developed comprehensive course materials for *Spreadsheet Modeling for Business and Management*, enhancing student proficiency in Excel-based modeling, scenario analysis, and decision support systems.

6) Adjunct Faculty, Computer Information System, College of Business, California State Polytechnic University, Pomona,

Courses Taught:
CIS 3252 - Business Intelligence CIS 3454 - Data Warehousing

Accomplishments:

- Instrumental in designing new Course (CIS 3454 - Data Warehousing) for CIS students Majoring Data Analytics track.

Academic Administration

- **Mentorship and Student Engagement** Serve as a mentor to graduate students, offering academic guidance, leadership coaching, and support for entrepreneurial ventures and career development.
- **Faculty Recruitment & Onboarding:** Coordinated the search, interview, and hiring process for new faculty members; developed orientation materials and mentored new hires through their first semester.
- **Research and Thought Leadership** Conduct and publish high-quality, practitioner-relevant research that contributes to the field of entrepreneurial leadership. Engage with the broader academic and business communities through conferences, publications, and thought leadership initiatives.
- **Program Contribution and Collaboration** Work closely with the faculty to support program design, admissions, events, and strategic initiatives. Actively contributes to the culture of innovation, experimentation, and interdisciplinary collaboration.
- **Community and Industry Engagement** Build strong connections with industry leaders, alumni, and ecosystem partners to enrich the learning experience and drive real-world impact for students.
- **Scholarship Committee & Student Enrollment**: Served as a key member of the university's Scholarship Committee, evaluating applications, setting award criteria, and ensuring equitable allocation of funds; coordinated with admissions to streamline student enrollment processes, resulting in a 15% reduction in processing time.
- **Course Curriculum Development**: Led the design and continuous improvement of undergraduate and graduate course curricula; collaborated with faculty across multiple departments to integrate emerging industry trends, learning outcomes, and accreditation requirements into program offerings.
- **Accreditation & Program Review**: Actively participated on the University Program Accreditation Committee, preparing self-study reports, coordinating site visits, and liaising with accrediting bodies to secure and maintain program accreditation status in compliance with national standards.
- **Student Advising, Retention & Success Initiatives:** Developed and implemented advising frameworks and early-alert systems to improve student retention; organized workshops on study skills, career planning, and time management.

CONSULTANCY EXPERIENCE

Technology Advisory Board Member, HEALTHMETRYX **April 2021- July 2023**
Provide professional guidance to the Company on topics related to:

- Big data for business and policymaking
- Database management
- Data mining
- Data Visualization (Tableau)

Consultant, Seventy7 Group **June 2021- Dec 2021**

Provide professional guidance to the Real Estate Company (Seventy7 Group) to develop a database application for keeping track of the Performance of their employees, Sales Growth, Profit Margin, and various other metrics.

- Form Creation (VBA, Google Sheet)
- Survey
- Data Visualization (Excel, Google Sheet)

Web Analytics Consultant, Aim Expert, Canada. **Dec 2020-March 2021**

Provide Web Analytics and Digital Marketing services on topics related to:

- Google Analytics configuration and testing
- Google Tag Manager configuration, events tracking, and goal conversion tracking.
- Google Data Studio for interactive dashboard to showcase visitors KPIs and Metrics
- Web development consultation
- Data visualization and comparing with other digital marketing tools.

INDUSTRY EXPERIENCE

Data Science Professional, *Port of Los Angeles* **Aug 2017- Feb 2019**

- Design and measure quarterly KPIs to improve operational efficiencies and productivity of port operations (Container handling, Truck turn-around time, berth productivity, Market share, Asian imports, trading volume, revenue, and expenses, etc.)
- Streamline and automate business process using data visualization tools (Tableau, Power BI) for effective strategic planning.
- Design & implement statistical/predictive model/algorithm using diverse source of international trade statistics.
- Identify trends, patterns & relationships by analyzing history of international trade data for decision makers using (Excel, Python, R)

Data Analyst, *ATOS Consultancy* **Sep 2014 – July 2017**

- Developed and implemented process improvement and task KPIs, reduced reporting time by 15%
- Designed systems sourcing information files from multiple places and generate meaningful reports for management review.
- Objectively communicated complex risk minimization initiatives and performance tracking analytics to various internal stakeholders
- Developed dynamic Dashboards (Tableau, Excel) that allowed comparing/ trending of market, organizational, and product performance.
- Managed marketing mix analyses to understand ROI from past communication and promotion strategies to guide the marketing team in strategic brand development to continue to grow share and volume.
- Developed statistical test to determine significant factors correlated to sales to guide 2015 budget planning.

Program manager, *The Asia Foundation* **Sep 2013- June 2014**

Successfully implemented multiple IT projects ranging from $50K to $500K, provide the technology knowledge and vision to support the company's business objectives, and evaluate and recommend all software for business processes.

- Interfaced with IT to implement underlying infrastructure; developing data validation strategies; report design and development; security development; end-user training; software deployment; and all other facets of a complete system development life cycle.
- Led implementation of enterprise and system level architectures including network, hardware, systems software, and applications software through directly controlled resources, other departments and external partners.

Policy Officer, *Ministry of Corrections & Public Safety and Government Relation***, May 2011-Aug 2013**

- Helped to design and develop an integrated database system for disaster management operation.
- Contributed to prepare briefing notes, Environmental Scan, yearly management report & documents for Federal Provincial & Territorial meeting.
- Conducted research, policy analysis and strategic planning on current and emerging public safety & policing issues in Saskatchewan.
- Analyzed trends and issues and consider relevant factors when conducting research and analysis to make policy recommendations to meet department goals and organization needs.

Program Coordinator, *The Asia Foundation* **Dec 2008-Feb 2010**

- Developed and managed the project management plan, established risk management process and metrics for the deliverables.
- Broad experience in dealing with senior government officials, development partners, leading international and local experts in various sectors.
- Demonstrated experience of contributing to the preparation and approval of Annual Work Plan (AWP), Overall Work Plan (OWP) of development partner (DP) funded projects by liaising with project sponsors.
- Undertook research on Economic Governance Index to improve provincial business environment.
- Policy analysis and advocacy work for economic governance issues with local and national government agencies, policymakers and business leaders.

Program Officer*, Bangladesh Trade Support Program (BTSP), Funded by European Commission (EC) and Implemented by Ministry of Commerce, GoB* **Oct 2007 – Dec 2008**

- Carried out tasks arising in the various stages of project cycle including identification, planning, appraisal as well as preparation of financing and contract agreements etc. and followed up on implementation, monitoring, evaluation of the project activities.
- Managed the contracts of international consultant firms and their local counterpart which were tasked for capacity building, regulatory reform, formulation, review of polices for Bangladesh Foreign Trade Institute and Ministry of Commerce components of the project.
- Prepared bid documents, evaluate submitted bids as per relevant procurement guidelines.
- Coordinated project activities with concerned ministries and EC officials regarding strategic and operational issues to ensure the timely delivery of outputs and hitting of milestones and ensured an effective, synergic relationship.
- Organized seminar, workshop, roadshow and study tour among stakeholders
- Prepared narrative, financial, and other reports as required by international development partners (IFC, UKAID, CIDA)
- Contributed to develop annual budget for the councils following the Government's regulations.

Executive Officer, *ICT Business Promotion Council (IBPC), Funded by World Bank (WB) and Implemented by Ministry of Commerce, GoB* **Aug 2003 – Sep 2007**

- Organized international conference for the development of ICT sector in Bangladesh.
- Coordinated software quality assurance (CMMI) training program for export-oriented businesses in Bangladesh for achieving compliance in software development.
- Interfaced with international/local experts and assisted them in holding meetings, seminars, trainings, workshops etc.
- Identify outsourcing opportunities and business lead from North American market
- Arranged and coordinated match-making joint venture opportunities for Bangladesh IT businesses with Denmark IT industry
- Proposed branding strategy ideas in association with ICT associations to promote outsourcing opportunities.
- Designed and developed the intranet site for the regional office, provide user support.

Database Developer, *URS Corporation,* **Mar 2001 – Feb 2003**

- Performed business analysis, systems design, database design and programming.
- Designed and maintained Maryland Transportation Authority project using Visual Basic as a front end and SQL Server 2000 to keep track of all maintenance work of all major highways in Maryland.
- Designed and developed GUI based front end screens in Visual Basic for accounting system and SQL server at the back end, connected using ADO.
- Developed an Access database for contacting existing and prospective clients, contractors, subcontractors, projects, associated events and prepared report and sent it to sales and marketing department. Extensive use of VBA, Macros, SQL queries and connected to SQL server 2000.
- Design, code, and test complex objects (triggers, stored procedures, views) to system specifications in order to satisfy application needs. Maintain existing DTS packages for Import/Export of data. Optimize data queries by analyzing existing indexes and creating new ones. Resolve various problems associated backend such as contention, locking and blocking.

Research Experience:

Ongoing Research
Engaged in the development of AI-based course curricula tailored for K–12 education, community colleges, and veteran training programs. The research emphasizes curriculum innovation, accessibility, and workforce alignment through the integration of artificial intelligence in teaching and learning.

*Idea Lab***,** *Claremont Graduate University* **Sept 2019 – Nov 2023**

- Use data mining and machine learning algorithm for large-scale datasets, specifically generated by personal sensing devices (PSD) such as smartphones, mobile apps, and wearable devices.
- discover hidden knowledge patterns, which may include frequent daily activities and classification of physiological data collected from PSD to create well-managed healthy lifestyles while preserving privacy and security

Data Science Practicum Lab, Claremont Graduate University **Jan 2018- May 2018**

- Examine the processing of large volume of data as streaming (Data Pipeline) in real-time using Python (numpy, scipy, pandas, matplotlib)
- Use various data analysis & visualization tool: Pentaho, Tableau and Microsoft Power BI toolkit, GitHub, Hadoop, Map Reduce, Jupiter.
- Analyze quantitative data to predict future sales using machine Learning (ML) algorithms: regression, classification, neural networks, clustering.

SPEAKING ENGAGEMENTS

- "Why Data Science: A case study of Port of Los Angeles (POLA)" – Presented to the senior management of IT department POLA.
- "International Trade: Tariffs and Non-Tariff Barrier; World Trade Organization (WTO) perspective"- Presented at the University of Regina, Johnson Shoyama Conference Center
- "Women Entrepreneurship and Empowerment: ICT enabled service."- Presented at the Pan Pacific Hotel conference room in Dhaka.
- "Data Science and its Business Implication" – Video Presentation to the aspiring business students of Harbor Education, China.

SCHOLARSHIP AND FELLOWSHIP

Fletcher Jones Foundation Fellowship, *Claremont Graduate University* **May 2016-Dec 2020 Graduate Student Scholarship,** *University of Regina* **January 2011**

COMMUNITY SERVICE

Elected CISAT representative, *GSC, Claremont Graduate University* **May 2018 –Jun 2019** Coordinated with university administration and other student bodies to facilitate fund generating events for innovative IT projects.

Vice-President, Model UN Club, *University of Regina* **Sep 2010–Dec 2010** Coordinated with student bodies with other universities and organized fund generating events for schools in Africa.

PUBLICATIONS

Peer-reviewed conference papers:

1) Almufareh. M, Abaoud. D. & Moniruzzaman, M. 2018. Taxonomy Development for Virtual Reality (VR)Technologies in Healthcare Sector. DESRIST 2018, LNCS 10844, pp. 146–156, 2018. https://doi.org/10.1007/978-3-319-91800-6_10

2) Y Fu, M Moniruzzaman, VQ Tran, S Chatterjee, D Drew – 2021. Epidemic VS Pandemic: A Visual Data Analysis of Gun Deaths Vs COVID-19 Deaths in the United States of America https://aisel.aisnet.org/amcis2021/data_science_decision_support/data_science_decision_support/8/

3) Armin Abazari, M.S., Samir Chatterjee, Ph.D., Md Moniruzzaman, Ph.D. Candidate,” Understanding Cancer Caregiving and Predicting Burden: An Analytics and Machine Learning Approach”. American Medical Informatics Association (2023).