Asif Ahmed Neloy

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Summary

Experienced Computer Science Lecturer with a strong foundation in both academia and industry, seamlessly blending theoretical knowledge with real-world applications. Proven track record of delivering engaging instruction and fostering student success. Passionate about creating inclusive learning environments and incorporating innovative teaching methods. Stay current with the latest industry trends and committed to ongoing research. An effective communicator and mentor dedicated to nurturing the growth of students. Empowering future computer scientists with practical skills essential for the technology-driven world.

Education

- **University of Manitoba** — Winnipeg, Manitoba, Canada
  Master Of Science - Computer Science; — *January 2021 - December 2022*
  Dissertation: **Dimension Reduction and Anomaly Detection using Unsupervised Machine Learning**
- **North South University** — Dhaka, Bangladesh
  Bachelor of Science - Computer Science and Engineering; — *January 2015 - March 2019*
  Thesis Topic: **Content-based Health Recommender System for ICU Patient**

Experience

- **Dept of Computing Science and Information Systems** — Douglas College
  Faculty/Professor — *December 2023 – Present*
  - **Course**:

    Winter 2024: **CSIS 2200**: Systems Analysis & Design
    CSIS 2300: Database I
    CSIS 3290: Fundamental of Machine Learning

  - **Primary Assignment**:
    - Instruct students, facilitate learning, and evaluate student progress, plan, organize and teach learning activities.
    - Ensure that students receive the knowledge, information, and resources to succeed by maintaining a quality, learner-centred approach to post-secondary education.
    - Developing curricula and delivering course material.
- **Dept of Computer Science, Faculty of Science and Technology** — Vancouver Island University
  Lecturer/Instructor — *August 2023 – December 2023*
  - **Course**:

    Fall 2023: **CSCI 159**: Computer Science I
    CSCI 112: Applications Programming.

  - **Primary Assignment**:
    - Provided engaging instruction and support to students during lectures and additional hours.
    - Developed and delivered curriculum content to ensure a comprehensive understanding of course materials.
    - Fostered an inclusive learning environment, encouraging student participation and success.
- **Forum Inc.** — Winnipeg, MB
  Data and Business Specialist — *June 2021 – July 2023*
  - Successfully trained and mentored team members, resulting in improved overall performance and productivity.

- Implemented effective data analysis solutions, contributing to data-driven decision-making processes within the organization.
- Created impactful data visualization tools that facilitated a better understanding of complex business insights.

- **Dept of Mathematics and Statistics** University of Saskatchewan
  Guest Lecturer *August 2022 – December 2022*
  - **Course**: STAT 447: Statistical Machine Learning for Data Science
  - **Primary Assignment**:
    - Invited lectures on Introduction to Python and GitHub.
- **Dept of Computer Science & Dept of Statistics** University of Manitoba
  Teaching Assistant & Grader *January 2021– May 2023*
  - **Course**:

    Winter 2023: **DATA 2010**: Tools & Techniques for Data Science **(TA)**
    Fall 2022: **COMP 1600**: Navigating the Digital World **(Grader)**
    COMP 1500: Computing: Ideas and Innovation **(Grader)**
    Winter 2022: **COMP 1012**: Computer Programming for Scientists and Engineers **(TA)**
    COMP 2280: Introduction to Computer Systems **(TA)**
    Fall 2021: **COMP 1600**: Navigating the Digital World **(Grader)**
    COMP 1500: Computing: Ideas and Innovation **(Grader)**
    DATA 2010: Tools & Techniques for Data Science **(TA)**
    Winter 2021: **COMP 1600**: Navigating the Digital World **(Grader)**
  - **Primary Assignment**: Conduct programming language lab class and support students in additional hours
  - **Additional Duties**: Occupying support for student as a **Help Centre Leader (Winter 2022)**

Honors and Awards

- **Graduate Student Travel Award** of $750 and $350 from **Faculty of Graduate Study** and **Dept of Computer Science**, University of Manitoba respectively to attend ICDM-2022, Orlando, Florida, USA.
- **Trainee Travel** Award of $500, NSERC Grant on VADA Program to attend ICDM 2022, Orlando, Florida, USA.
- **Faculty of Graduate Studies Prestigious Research Completion Scholarship** valued $5000 from **Faculty of Graduate Study**, the University of Manitoba for excellence in graduate studies and research.
- **Graduate Student Travel Award** of $750 and $350 from **Faculty of Graduate Study** and **Dept of Computer Science**, University of Manitoba respectively to attend ICSA-Canada Chapter 2022 Symposium, Alberta, Canada.
- 1^{st} **Runner-up Honorable Mention**, **Big Data Challenge** VADA program Summer School 2022.
- **Third Place**, **Poster Competition** VADA program Summer School 2022.
- **Computer Science progression award** of $540, for maintaining satisfactory and on-time progress in graduate program at University of Manitoba.
- The Visual and Automated Disease Analytics (VADA) **Graduate Trainee Stipend** $19000 for the 2021-2022 Fiscal year.
- **Fellowship** $500 for Summer 2021, Dept of Computer Science, University of Manitoba.
- **Fellowship**, $11500 for Winter, Summer and Fall 2021, Faculty of Science, University of Manitoba.
- **General Bursary**, $2400 amount deduction towards Winter 2021 tuition fees, Faculty of Graduate Study, University of Manitoba.
- **25% Financial Aid** towards tuition fees for Academic Performance, North South University
- Achieved the 1^{st} **Runner Up** prize for the Undergraduate Thesis Capstone Project, Capstone Innovation Challenge, Season 6, 2018.
- Runner up - IEEE day Hackathon 2017.
- **Junior Govt Board Scholarship** (Standard 8) for excellent academic result.

Guest Lectures and Seminar Presentations

- **Invited Sessions:**
    - ICSA-Canada Chapter 2022 Symposium, Banff Center, Banff, Alberta, Canada.
      Topic: Auto-encoders for Anomaly Detection: Efficiency and Trade-Offs.

- **Lectures:**
    - Introduction to Machine Learning, North South University, Dhaka, Bangladesh.

Volunteer Experience

- **Peer Mentor**, for the term of Fall 2021, University of Manitoba.
- Conducted Tutorial session and workshops including: **Workshop on Robotics (Robo101), Workshop on Intro to Machine Learning,** and **Hour of Code** for the undergraduate students of North South University.
- Served as **Founding Secretary (2017)** and **Vice-Chair (2018)** of the **NSU ACM Student Chapter**. For my contribution towards NSU ACM SC, I received the prestigious **Service of Recognition** award from ACM NY.

Skills Summary

- **Programming**: Python, R, C++, C, SQL, Bash, JAVA.
- **Machine Learning**: Outlier Detection, Time Series Forecasting, Information Retrieval and Customer Segmentation, Statistical Learning Models, Recommendation Engines.
- **Data Science**: Data Manipulation, Data Visualization, Interpreting Data, Modeling Data, Testing Hypotheses, Quantitative Analysis.
- **Frameworks**: Pandas, Numpy, Matplotlib, Scikit, PyTorch, TensorFlow, Keras, Theano.
- **Tools**: Microsoft Excel, Tableau, Anaconda, Power BI, GIT, Latex.
- **Soft Skills**: Leadership, Management, Public Speaking, Time Management and can write well organized and structured scientific reports, meeting minutes.

Python Packages

- **Data Scaler Selector**: Data Scaler is an open-source python library to select the appropriate data scaler for your Machine Learning model.
- **Image to Sketch**: Python open-source library to convert color/ B&W image to pencil sketch.
- **Data Preparer (On-Progress)**: Data Preparer is an open-source Python package to Clean and Prepare your dataset before applying Machine Learning Model.

Reviewing Experience

- **Conference:**:
    - *2020 International Symposium on Automation, Information and Computing* (**ISAIC 2020**). Beijing Jiaotong University, Beijing, China, December 2nd-4th, 2020.
    - *2019 The Fourth International Conference on Economic and Business Management* (**FEBM 2019**). China October 19-21, 2019.

- **Journals:**:
    - **CAAI Transactions on Intelligence Technology (2020)**
    - **IEEE Access (2020)**

Published Books

- **"Let's make Robots"**: , Publisher - **Pinnacle Media**, Publishing Year – **November 2017**.

Publications

- **Work-in-Progress**:
  - **Neloy, A. A.**, Turgeon M. (November, 2021) **A Comprehensive Study of Auto-Encoders for Anomaly Detection: Efficiency and Trade-Offs**

- **Submitted/Under Review**:
  - **Neloy, A. A.**, Turgeon M. (September, 2022), **Disentangled Conditional Variational Autoencoder for Unsupervised Anomaly Detection**, **under-review:** Eleventh International Conference on Learning Representations (ICLR 2023).

- **Refereed Journal**:
  - **Neloy, A. A.**, Alam, S., Bindu, R. A.,(2020, August). **Design and Implementation of a Novel Hybrid Rental Apartment Recommender System**. *Advances in Data Science and Adaptive Analysis.* DOI: https://doi.org/10.1142/S2424922X2041003X
  - **Neloy, A. A.**, Bindu, R. A., Alam, S., Haque, R., Khan, M. S. A., Mishu, N. M., & Siddique, S. (2020, November). **Alpha_N-V2: Shortest Path Finder Automated Delivery Robot with Real-Time Object Detection and Avoiding System**. *Vietnam Journal of Computer Science (VJCS)*, Issue-7, No 4, Nov 2020. DOI: https://doi.org/10.1142/S2196888820500219
  - **Neloy, A. A.**, Arman, A., Islam, M. S., & Motahar, T. (2018).**Automated Mobile Robot with RFID Scanner and Self Obstacle Avoiding System**. *International Journal of Pure and Applied Mathematics*, 118(18), 3139-3150. (**pdf**)

- **Peer-Reviewed Conference Paper**:
  - **Neloy, A. A.**, & Turgeon, M. (2022, November). Feature Extraction and Prediction of Combined Text and Survey Data using Two-Staged Modeling. In 2022 IEEE International Conference on Data Mining Workshops (ICDMW) (pp. 435-442). IEEE. **DOI:** 10.1109/ICDMW58026.2022.00064
  - Bindu, R.A., **Neloy, A.A.**, Alam, S. and Siddique, S., 2021, July. **3-Survivor: A Rough Terrain Negotiable Search and Surveillance Mobile Robot with Real-Time Object Detection**. In 2021 18th International Conference on Ubiquitous Robots (UR) (pp. 423-428). IEEE. **DOI:** 10.1109/UR52253.2021.9494682.
  - Bindu, R. A., **Neloy, A. A.**, Alam, S., Moni, N. J., & Siddique, S. (2019, November).**Sigma-3: Integration and Analysis of a 6 DOF Robotic Arm Configuration in a Rescue Robot**. In 2019 4th International Conference on Robotics and Automation Engineering (ICRAE), (pp. 6-11). IEEE. **DOI:** https://doi.org/10.1109/ICRAE48301.2019.9043799
  - **Neloy, A. A.**, Alam, S., Bindu, R. A., & Moni, N. J. (2019, April). **Machine Learning based Health Prediction System using IBM Cloud as PaaS**. In 2019 3rd International Conference on Trends in Electronics and Informatics (ICOEI), (pp. 444-450). IEEE. **DOI:** https://doi.org/10.1109/ICOEI.2019.8862754
  - Bindu, R. A., Alam, S., & **Neloy, A. A**. (2019, March). **A Cost-Efficient Multipurpose Service Robot using Raspberry Pi and 6 DOF Robotic Arm**. In Proceedings of the 2019 2nd International Conference on Service Robotics Technologies, (pp. 16-22). **DOI:** https://doi.org/10.1145/3325693.3325701
  - **Neloy, A. A.**, Haque, H. S., & Ul Islam, M. M. (2019, February). **Ensemble Learning Based Rental Apartment Price Prediction Model by Categorical Features Factoring**. In Proceedings of the 2019 11th International Conference on Machine Learning and Computing, (pp. 350-356). **DOI:** https://doi.org/10.1145/3318299.3318377

- **Book Chapters**:
  - **Neloy, A. A.**, Bindu, R. A., Alam, S., Haque, R., Khan, M. S. A., Mishu, N. M., & Siddique, S. (2020, March). **Alpha-N: Shortest Path Finder Automated Delivery Robot with Obstacle Detection and Avoiding System**. In Asian Conference on Intelligent Information and Database Systems, (pp. 202-213). Springer, Cham. **DOI:** https://doi.org/10.1007/978-3-030-41964-6_18
  - **Neloy A.A.**, Shafayat Oshman M., Islam M.M., Hossain M.J., & Zahir Z.B. (2019). **Content-Based Health Recommender System for ICU Patient**. In: Chamchong R., Wong K. (eds) *Multi-disciplinary Trends in Artificial Intelligence.* MIWAI 2019. Lecture Notes in Computer Science, vol 11909. Springer, Cham. **DOI:** https://doi.org/10.1007/978-3-030-33709-4_20