

# Md Parvez Mollah

505-835-4107 | [parvez@unm.edu](mailto:parvez@unm.edu) | [cs.unm.edu/~parvez/](http://cs.unm.edu/~parvez/) | [linkedin.com/in/parvezsupto/](https://www.linkedin.com/in/parvezsupto/)

## EDUCATION

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- PhD in Computer Science (Expected graduation - 2023)** Aug. 2018 – Present  
*University of New Mexico, New Mexico, USA | CGPA: 4.08/4.00*
- MS in Computer Science** Dec. 2022  
*University of New Mexico, New Mexico, USA | CGPA: 4.20/4.00*
- BSc in Computer Science & Engineering** Apr. 2016  
*University of Dhaka, Dhaka, BD | CGPA: 3.59/4.00*

## EXPERIENCE

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- Research Assistant** | *University of New Mexico, New Mexico, USA* May. 2019 – Present
- Research Interests: Time Series Analysis, Temporal Data Mining, Machine Learning.
  - Currently working on roadside LiDAR data to enable functionalities of intelligent transportation system. Developed a compression method to reduce the roadside LiDAR data size (**CIKM 2022**).
  - Developed an efficient algorithm to summarize large time series datasets (published in **ICDM 2021**).
  - Implemented a Long Short-Term Memory (LSTM) networks model for forecasting solar power generation based on weather information. Presented this work as a poster titled "Forecasting Left-over Solar Capacity of Household Solar Panels" at the 26th NSF EPSCoR National Conference, 2019.
- Software Engineer Intern (ML)** | *Meta Platforms, Inc., California, USA* May. 2022 – Aug. 2022
- Developed an algorithm to measure the impact of training data on production **Automatic Speech Recognition (ASR)** models. Achieved **25-35%** model performance improvement by training the model with high-valued data measured by the algorithm. Reduced the training set size by **50%** while maintaining similar performance to the baseline model.
- Software Engineer** | *AnyConnect Inc., Dhaka, BD* Feb. 2018 – Jul. 2018
- Developed iOS applications for communicating with Internet-of-Things(IoT) enabled devices.
  - Developed C++ libraries for the communication procedures among IoT devices.
- Software Engineer** | *IPvision Canada Inc., Dhaka, BD* Dec. 2016 – Feb. 2018
- Designed and developed database layer of **RingID's** channel and newsfeed features in Cassandra.
  - Developed several utility programs e.g., Database Schema Matcher, Query Parser etc.

## TECHNICAL SKILLS

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**Programming Languages:** C, C++, Java, Matlab, Python, Objective C, Haskell.  
**Databases:** MySQL, Oracle, Cassandra.  
**Tools & Libraries:** Git, Keras, TensorFlow, PyTorch, OpenCV, OpenGL.

## PUBLICATION

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- M. P. Mollah, B. Debnath, M. Sankaradas, S. Chakradhar, and A. Mueen, "Efficient Compression Method for Roadside LiDAR Data", CIKM '22: Proceedings of the 31st ACM International Conference on Information & Knowledge Management, Oct. 2022, pp. 3371–3380, doi: <https://doi.org/10.1145/3511808.3557144>.
- M. P. Mollah, V. M. A. Souza and A. Mueen, "Multi-way Time Series Join on Multi-length Patterns", 2021 IEEE International Conference on Data Mining (ICDM), 2021, pp. 429-438, doi: [10.1109/ICDM51629.2021.00054](https://doi.org/10.1109/ICDM51629.2021.00054).
- J. Ferdous, M. P. Mollah, M. A. Razzaque, M. M. Hassan, A. Alamri, G. Fortino and M. Zhou, "Optimal Dynamic Pricing for Trading-Off User Utility and Operator Profit in Smart Grid", in IEEE Transactions on Systems, Man, and Cybernetics: Systems, vol. 50, no. 2, pp. 455-467, Feb. 2020, doi: [10.1109/TSMC.2017.2764442](https://doi.org/10.1109/TSMC.2017.2764442).

## PATENT

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- Md Parvez Mollah, Abdullah Mueen, "Efficient Compression Method for Roadside LiDAR Data", Provisional Patent.

## PROGRAMMING CONTEST CAREER

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- Good concepts on Dynamic Programming, Data Structures, Graph Theory, Number Theory.
- Solved 1000+ problems in different Online Judges. [click here for my online profiles]
- Notable contest performances:
  - **5th place** (among 120+ teams), RUET National Collegiate Programming Contest, Rajshahi, BD, 2015
  - **5th place** (among 100+ teams), SUST Inter University Programming Contest, Sylhet, BD, 2015
- One of the Problem Setters and Judges at National High School Programming Contest 2016, Bangladesh and City University IUPC 2016, Bangladesh.

## GRADUATE COURSES

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Algorithms & Data Structure, Data Mining Techniques, Advanced Operating Systems, Geometric & Prob Methods in CS, Intro to Cybersecurity, Intro to Theory of Computation.

## EXTRA-CURRICULAR ACTIVITIES

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- Served as the Vice-President of the Computer Science Graduate Student Association at UNM in 2021-2022.
- Served as the President of the Bengal United Sports Club at UNM in 2021-2022.