A K M Shahariar Azad Rabby

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🌐 https://shahariarrabby.github.io

Diligent Machine Learning & Deep Learning Engineer, experienced in creating advance analytics strategies using data & intelligent machine learning algorithms with creative interfaces. Mixed two years of academia in AI research & professional machine learning & data science experience. Passionate for social innovation that promotes human inventiveness.

Employment History

2019 Oct – Current

🔖 **Software Engineer–Machine Learning.** Apurba Technologies, Dhaka, Bangladesh.
🌐 apurba.com.bd
- » Research & development of the Bangla OCR system.
- » Working with team on design, development & integration of image processing.
- » Improved OCR performance, optimizations & benchmark over 91%.

2019 Jan – Current

🔖 **Lecturer,** Computer Science & Engineering, Daffodil International University, Dhaka, Bangladesh. *(Part-time position).* 🌐 diu.edu.bd
- » Deliver lectures & tutorials for Artificial Intelligence with lab (CSE 412, 413L).
- » Develop & implement new methods of teaching to reflect changes in research.

2017 Oct – Current

🔖 **Sr. Research Scientist (Computer Vision & AI Initiatives).** DIU NLP & Machine Learning Research Lab. 🌐 nlp.daffodilvarsity.edu.bd
- » Write, publish & present research in high-quality, peer-reviewed journals.
- » Supervise more then 400 students' research activities, including projects.

2019 Apr – 2019 Oct

🔖 **Developer–AI.** Genex Digital. Dhaka, Bangladesh. 🌐 genex.digital
- » Integrated system with 4 chat applications, Chatlogy, Mira, Sarah & agent chat.
- » Improved chatbot accuracy by 25%, Reduced processing time by 30%.

Education

2018

🔖 **B.Sc. in Computer Science & Engineering, Daffodil International University, Dhaka, Bangladesh.** 148 credits toward a Bachelor's degree in Computer Science and Engineering. Thesis title: *Ekush: Bangla Handwritten Character Data Repository for NLP Research.* 🔗

2014

🔖 **HSC, Science, Cantonment College, Cumilla, Cumilla Cantonment, Bangladesh.**

2012

🔖 **SSC, Science, Muslim Modern Academy, Dhaka Cantonment, Dhaka, Bangladesh.**

Nanodegrees & Certificates

🔖 **Self Driving Car Engineer Nanodegree Program, Udacity.**

🔖 **Deep Learning Nanodegree Program, Udacity.**

🔖 **Computer Vision Nanodegree Program, Udacity.**

🔖 **Deep Learning Specialization.** deeplearning.ai, Coursera.

🔖 **Machine Learning** Stanford Online, Coursera.

🔖 **TensorFlow in Practice Specialization.** deeplearning.ai, Coursera.

🔖 **Learning How to Learn.** McMaster University & University of San Diego, Coursera.
🌐 Check more Nanodegree & Certificates: shahariarrabby.github.io/certification

Projects

🔖 **Ekush,** 🌐 shahariarrabby.github.io/ekush
- » Largest dataset of handwritten Bangla characters & digits.
- » 673,482 character instances & 242 character class
- » 340,243 female & 333,239 male data.
- » 4 caption per image, include a variety of the district, age group.

Projects (continued)

- 🔖 **Programming a Real Self-Driving Car** 🌐 github.com/ShahariarRabby/CarND_Capstone
  - » Perception subsystem detects traffic lights & obstacles.
  - » Planning subsystem updates the waypoints & the associated target velocities.
  - » Control subsystem actuates the throttle, steering, & brake to navigate the waypoints with target velocity.
- 🔖 **GYMX**, 🌐 gymxx.herokuapp.com
  - » Online gym management tool built with Laravel.
  - » Digitalized the system including online payment, task, chat & alert, etc.
- 🔖 **ISHARA–LIPI** 🌐 isharalipi.sanzidscloud.com
  - » First multipurpose characters & digits dataset for Bangla Sign Language(BdSL).
  - » 1,800 images of 36 classes.

Selected Publications

1 Rabby, A. K. M. S. A., Haque, S., Islam, M. S., Abujar, S., & Hossain, S. A. (2019). Ekush: a multipurpose and multitype comprehensive database for online off-line bangla handwritten characters. In K. C. Santosh & R. S. Hegadi (Eds.), *Recent trends in image processing and pattern recognition* (pp. 149–158). Singapore: Springer Singapore.

2 Rabby, A. S. A., Haque, S., Abujar, S., & Hossain, S. A. (2018). Ekushnet: using convolutional neural network for bangla handwritten recognition. *Procedia Computer Science*, *143*, 603–610. 8th International Conference on Advances in Computing & Communications (ICACC-2018).

3 Rabby, A. S. A., Haque, S., Shahinoor, S. A., Abujar, S., & Hossain, S. A. (2018). A universal way to collect and process handwritten data for any language. *Procedia Computer Science*, *143*, 502–509. 8th International Conference on Advances in Computing & Communications (ICACC-2018).

4 Sanzidul, I., Mousumi, S. S. S., Jessan, N. A., Rabby, A. K. M. S. A., & Hossain, S. A. (2018). Ishara-lipi: the first complete multipurposeopen access dataset of isolated characters for bangla sign language. In *2018 international conference on bangla speech and language processing (icbslp)* (pp. 1–4).

Read more publications here: 🌐 shahariarrabby.github.io/publication   or   🎓 Google Scholar

Skills

Coding	🔖 Python, C, php, sql, HTML, CSS, SASS, JavaScript, LaTeX.
Framework	🔖 Keras, Tensorflow, Pytorch, Laravel, Django, Wordpress.
Tools	🔖 Git & Github, Linux, Bash.
Misc.	🔖 Research, teaching, training, consultation, Morse Code.
Languages	🔖 Strong reading, writing & speaking competencies for Bangla and English.

Awards and Achievements

- 🔖 **IBM–Centre of Excellence**, *Developed a Minimum Viable Product (MVP)*, To Build a ChatBot Using IBM Watson. (Mentored by IBM).
- 🔖 **Best Paper Awards**, For *Bangla Handwritten Digit Recognition using Convolutional Neural Network & Ekush: A Multipurpose and Multitype Comprehensive Database for Online Off-line Bangla Handwritten Character.*
- 🔖 **1st Runner Up**, 1st runner up on 3-minute pitching competition at *2nd Symposium on Bangla Computational Linguistics (SBCL)*, SUST, Sylhet.
- 🔖 **Best Student Research Award (2018 & 2019)**, Department of Computer Science & Engineering, Daffodil International University, Dhaka, Bangladesh.
- 🔖 **Conducting Workshops** about Machine Learning & Research in three different universites.