Curriculum Vitae

Faculty Name: **Md Hossain Shuvo**

Work Address: P.O. Box 519; MS 1060
Prairie View, TX 77446

Position Title: Assistant Professor
Office Location: S.R. Collins Room # 309
Office Phone: 936-261-9878
Email Address: mhshuvo@pvamu.edu

Education:

Degree and Area of Study	Institution Name	Degree Date
Ph.D. in Computer Science	Virginia Tech	Dec 2023
M.Sc. in Computer Science	Alabama A&M University	Jul 2017
B.Sc. in Computer Science	Bangladesh University of Business and Technology	Jul 2014

Teaching Experience

Position Title	Institution Name	Position Dates (Beginning and End)
Assistant Professor	Prairie View A&M University	Jan 2024 - Present
Teaching Assistant	Auburn University	Aug 2018 – Jan 2020
Teaching Assistant	Alabama A&M University	Jan 2017 – Jul 2017
Assistant Mentor	North Alabama Center for Educational Excellence (NACEE)	May 2016 – Jul 2016
Lecturer	Dhaka Commerce College	Jan 2015 – Jul 2015
Lecturer	Dhaka Cambrian College	Jan 2014 – Dec 2014

Publications:

M. H. Shuvo, D. Bhattacharya, EquiRank: improved protein-protein interface quality estimation using protein-language-model-informed equivariant graph neural networks. Accepted to ICIBM 2024

R. Roche, B. Moussad, M. H. Shuvo, S. Tarafder, D. Bhattacharya, EquiPNAS: improved protein-nucleic acid binding site prediction using protein-language-model-informed equivariant deep graph neural networks. Nucleic Acids Research, 2024 gkae039, 10.1093/nar/gkae039

M. H. Shuvo, M. Karim, R. Roche, and D. Bhattacharya, “PIQLE: protein-protein interface quality estimation by deep graph learning of multimeric interaction geometries”, Bioinformatics Advances, 2023, vbad070, 10.1093/bioadv070.

M. H. Shuvo, M. Karim, and D. Bhattacharya, “iQDeep: an integrated web server for protein scoring using multiscale deep learning models”, Journal of Molecular Biology, 168057, 2023. doi: 10.1016/j.jmb.2023.168057

R. Roche, B. Moussad, M. H. Shuvo, S. Tarafder, D. Bhattacharya, EquiPNAS: improved protein-nucleic acid binding site prediction using protein-language-model-informed equivariant deep graph neural networks. bioRxiv, 2023.09.14.557719

. R. Roche, B. Moussad, M. H. Shuvo, D. Bhattacharya, “E(3) equivariant graph neural networks for robust and accurate protein–protein interaction site prediction”, PLOS Computational Biology, 19, e1011435, doi: 10.1371/journal.pcbi.1011435

S. Bhattacharya, R. Roche, M. H. Shuvo, and D. Bhattacharya, “Contact-assisted threading in low-homology protein modeling”, Methods in Molecular Biology book series, vol. 2627, 2023, doi: 10.1007/978-1-0716-2974-1 3

R. Roche, S. Bhattacharya, M. H. Shuvo, and D. Bhattacharya, “rrQNet: Protein contact map quality estimation by deep evolutionary reconciliation”, Proteins, Jun 2022, doi: 10.1002/prot.26394.

M. H. Shuvo, M. Gulfam, and D. Bhattacharya, “DeepRefiner: high-accuracy protein structure refinement by deep network calibration”, Nucleic Acids Research, vol. 49, no. W1, pp. W147–W152, Jul. 2021, doi: 10.1093/nar/gkab361

S. Bhattacharya, R. Roche, M. H. Shuvo, and D. Bhattacharya, “Recent Advances in Protein Homology Detection Propelled by Inter-Residue Interaction Map Threading”, Front Mol Biosci, vol. 8, p. 643752, 2021, doi: 10.3389/fmolb.2021.643752.

A. Kryshtafovych, . . . , M. H. Shuvo, . . . , “Modeling SARS-CoV-2 proteins in the CASPcommons experiment”, Proteins, vol. 89, no. 12, pp. 1987–1996, Dec. 2021, doi: 10.1002/prot.26231.

M. H. Shuvo, S. Bhattacharya, and D. Bhattacharya, “QDeep: distance-based protein model quality estimation by residue-level ensemble error classifications using stacked deep residual neural networks”, Bioinformatics,

Honors and Awards

- **FEP Award** by the Roy G. Perry College of Engineering at PVAMU
- **NSF NDSA PFx** instructor
- **NSF NDSA Research Affinity Cohort** researcher
- **GOOGLE TEC EQUITY IMPACT FUND: $**50,000 non-dilutive funding, led jointly with Dr. Wang at PVAMU
- **ACCESS ALLOCATIONS:** Principal Investigator (PI), NSF - XSEDE Research Allocation
- **PRATT FELLOWSHIP AWARD:** Awarded Pratt Fellowship at Virginia Tech, 2023
- **YOUNG SCIENTIST EXCELLENCE AWARDS:** Awarded 1st place prize at 18th annual MCBIOS conference, 2022
- **CONFERENCE FELLOWSHIP**: MCBIOS 2022, ISMB 2020
- **PUBLICATION RECOGNITION:** DeepRefiner paper accepted for ACM-BCB 2022 Highlights track
- **TRAVEL FELLOWSHIP:** Received travel grant for IEEE SoutheastCon 2016
- **POSTER AWARD:** Awarded 2nd place prize at AAMU STEM Day 2016

Services and Outreach

- **DIVISION OF RESEARCH AND INNOVATION COMMITTEE** member
- **FACULTY SEARCH COMMITTEE** member
- **JUDGE** for Mastercard Center for Inclusive Growth x AUC Data Science Initiative 2024 Data Challenge
- **REVIEWER:** IEEE ACM/Transaction, IEEE BIBM 2024, IEEE CogMI 2024, BIOKDD 2021, 2023, 2024