Dipannoy Das Gupta

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Skills

- Python, C#, JavaScript, Java, C, C++
- Keras, Tensor Flow, Pytorch, ASP.Net, ASP.Net Core, Node.JS, React, AngularJS, Microsoft SQL, MySQL, MongoDB
- Machine Learning, Deep Learning, Graph Neural Network, Material Informatics, Full Stack Development, Database Management, Linux Management

Experiences

Graduate Research Assistant, <u>Sutton Lab</u>, **University of South Carolina**   August, 2022-Present

- Implemented parameter based domain adaptation technique across the benchmark material Graph Neural Networks: SchNet, PAiNN, ALiGNN in the pursuit of screening new double perovskite compounds. The traditional DFT level screening takes around 1-2 months while our domain adaptation based approach leads the chemists to the new compounds within minutes with a pretty low MAE of 0.038 eV/atom.
- Integrated equivariant graph neural network as an encoder for self-supervised learning (SSL). Currently, 250k unlabeled double perovskite structures are used for the SSL task. This is the very first time an equivariant model has been added on top of the downstream prediction task for inheriting best model parameters, and weights. The SSL module provides better representation for the subsequent MLP as well.
- Predicted different material properties(Formation energy, Bandgap, Orbital Energy Spectrum) with GNN.

Graduate Teaching Assistant, **Department of Computer Science**, **New Mexico Tech**   Jan, 2022-May, 2022

- Evaluated the assignments and projects of the Systems Programming course. This course includes system-level programming based on OS services and other APIs.

Research Assistant, <u>4MLab</u>, **University of Louisiana at Lafayette**   June, 2020-Dec, 2021

- Processed DICOM images to generate the expected 3D mesh.
- Graph Neural Network has been applied over the CT scan images to predict the 3D shape of bone.

Software Engineer, <u>Edusoft Consultants Limited</u>, **Dhaka, Bangladesh**   June, 2019-Dec, 2021

- Developed Admin, Program, and Evaluator Dashboard for Accreditation Management System(AMS), developed Teacher Dashboard for Learning Management System(LMS), integrated payment gateway, implemented Google APIs, developed Single Sign On (SSO) system, developed Outcome Based Education(OBE) software, project member of multiple UCAM (University Comprehensive Academic Management) projects.

Education

- B.Sc. in Computer Science and Engineering, Bangladesh University of Engineering   Feb, 2015-April, 2019 & Technology(BUET).
- Graduate Student, Department of Computer Science, University of South Carolina   August, 2022-Present

Projects

- Developed a number puzzle game named **KenKen** with C.
- Developed an online examination system with Java.
- Developed a Question and Answer forum with Django, HTML, CSS, Javascript, & JQuery
- Structured and managed XML data in a NoSQL database named ArangoDB

Others

- Evaluated the answer scripts of Regional Physics Olympiad, and supervised undergrad students in their thesis work.