# SADMAN SADEED OMEE

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## EXPERIENCE

**University of South Carolina** **January 2022 – Current**
Graduate Research Assistant (Machine Learning and Evolution Laboratory) Columbia, SC, United States

- I do this.
- I do that.

**University of South Carolina** **August 2021 – December 2021**
Graduate Teaching Assistant (Course: General Applications Programming) Columbia, SC, United States

- Taught HTML, CSS, and Javascript to two lab group students.

**Bangladesh University of Engineering and Technology** **May 2019 – July 2021**
Research Student (Graph Drawing and Information Visualization Laboratory) Dhaka, Bangladesh

- Worked on unsupervised learning, mostly developing hierarchical clustering algorithms.

## PUBLICATIONS

### Journal Articles

1. "Scalable deeper graph neural networks for high-performance materials property prediction", **Sadman Sadeed Omee**, Steph-Yves Louis, Nihang Fu, Lai Wei, Sourin Dey, Rongzhi Dong, Qinyang Li, Jianjun Hu, *Patterns*, 2022.
2. "Materials property prediction with uncertainty quantification: A benchmark study", Daniel Varivoda, Rongzhi Dong, **Sadman Sadeed Omee**, Jianjun Hu, *Applied Physics Reviews*, 2023.
3. "DeepXRD: A deep learning model for predicting XRD spectrum from material composition", Rongzhi Dong, Yong Zhao, Yuqi Song, Nihang Fu, **Sadman Sadeed Omee**, Sourin Dey, Qinyang Li, Lai Wei, Jianjun Hu, *ACS Applied Materials & Interfaces*, 2022.
4. "MaterialsAtlas.org: A materials informatics web app platform for materials discovery and survey of state-of-the-art", Jianjun Hu, Stanislav Stefanov, Yuqi Song, **Sadman Sadeed Omee**, Steph-Yves Louis, Edirisuriya M. D. Siriwardane, Yong Zhao, *npj Computational Materials*, 2022.
5. "Material transformers: Deep learning language models for generative materials design", Nihang Fu, Lai Wei, Yuqi Song, Qinyang Li, Rui Xin, **Sadman Sadeed Omee**, Rongzhi Dong, Edirisuriya M Dilanga Siriwardane, Jianjun Hu, *Machine Learning: Science and Technology*, 2023
6. "Accurate prediction of voltage of battery electrode materials using attention-based graph neural networks", Steph-Yves Louis, Edirisuriya M. D. Siriwardane, Rajendra P. Joshi, **Sadman Sadeed Omee**, Neeraj Kumar, Jianjun Hu, *ACS Applied Materials & Interfaces*, 2022.
7. "Global mapping of structures and properties of crystal materials", Qinyang Li, Rongzhi Dong, Nihang Fu, **Sadman Sadeed Omee**, Lai Wei, Jianjun Hu, *Journal of Chemical Information and Modeling*, 2023.
8. "TCSP: A template-based crystal structure prediction algorithm for materials discovery", Lai Wei, Nihang Fu, Edirisuriya M. D. Siriwardane, Wenhui Yang, **Sadman Sadeed Omee**, Rongzhi Dong, Rui Xin, Jianjun Hu, *Inorganic Chemistry*, 2022.

## RELEVANT SKILLS

**Programming languages**: Python, C, C++, Java, JavaScript
**Machine learning (ML) / deep learning (DL) concepts**: Updated with the latest state-of-the-art CNN, RNN, GNN, Transformer, and Generative model architectures
**ML / DL frameworks**: PyTorch, Tensorflow, PyTorch Lightning, Keras, Scikit-learn
**ML / DL libraries**: PyTorch Geometric (PyG), Deep Graph Library (DGL), Transformers (Hugging Face), PyTorch-Ignite, Pandas, Numpy, Scipy, Pymatgen, KGCNN, NetworkX, Hyperopt

## EDUCATION

**University of South Carolina** **August 2021 – Present**
Ph.D. in Computer Science Columbia, SC, United States
Current GPA: 3.95/4.00

**Bangladesh University of Engineering and Technology** **February 2015 – April 2019**
B.S. in Computer Science Dhaka, Bangladesh

## REFERENCES

1. **Dr. Jianjun Hu** (Research Supervisor and Academic Advisor)
   Professor, Department of Computer Science and Engineering, University of South Carolina, E-mail: jianjunh@cec.sc.edu

2. **Dr. Marco Valtorta** (Department Head)
   Professor, Department of Computer Science and Engineering, University of South Carolina, E-mail: mgv@cse.sc.edu