

Rochester Institute of Technology

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Golisano College of Computing and Information Sciences

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Research Interests: Machine Learning; Graph Representation Learning; Link Prediction; Heterogeneous Data Integration.

EDUCATION

Ph.D., Golisano College of Computing and Information Sciences

2016 – Present

Rochester Institute of Technology (GPA: 4.0)

Rochester, New York

Thesis: Deep learning methods for the effective integration of heterogeneous data for biological network inference.

Advisor: Dr. Rui Li and Dr. Anne Haake

Committee: Drs. Rui Li, Anne Haake, Feng Cui, Linwei Wang, Qi Yu

Bachelor of Engineering (B.E.), Computer Engineering

2010 – 2014

Central Campus Pulchowk, Tribhuvan University (GPA: 4.0)

Kathmandu, Nepal

Thesis: Agricultural Data Integration and Analysis – Analyzing heterogeneous factors that influence agriculture.

WORK EXPERIENCE

Human-Centric Multi-Modal Modelling Lab, RIT.

Rochester, New York

Research Assistant, Supervisor: Rui Li, Anne Haake

Aug 2016 – Present

Research focus: Developing deep neural network architecture to learn representations from heterogeneous data for biological network inference.

Research and Development, Verisk Information Technologies

Kathmandu, Nepal

Data Engineer

May 2015 - Jun 2016

Project: Medical Intelligence

Data Warehouse ETL Team, Yomari Inc. Pvt. Ltd.

Lalitpur, Nepal

Software Trainee

Oct 2014 – Apr 2015

Project: Express Enterprise Data Warehouse (EDW)

SCHOLARSHIPS, AND AWARDS

RIT Graduate Showcase Oral Presentation Award. (2019). Awarded for presentation titled “Learning Sparse and Structure Gaussian Embedding of Protein sequences using pairwise constraints”.

RIT Ph.D. Merit Scholarship. (2016 – Present). Financial support for Ph.D. studies at the Rochester Institute of Technology since August 2016.

Team of the Quarter (2017). Awarded in recognition of exceptional performance for developing norm framework – processing and integration. Awarded by the Verisk Information Technologies.

The Verisk Way to Go Award (2016). Received this award as the Data Engineer on the Medical Intelligence project for outstanding contribution. Awarded by the Verisk Information Technologies.

Rookie of the Year (2016). Awarded in recognition of exceptional performance among 70 new employees. Awarded by the Verisk Information Technologies.

The College Fellowship. (2011 – 2015). For academic merit and performance in each semester during the undergraduate studies. Awarded by the Institute of Engineering, Central Campus Pulchowk.

Academic Excellence Scholarship. (2011-2015). For excellent academic performance in the exams of six semesters (II, III, V, VI, VII, VIII) of Bachelor's in Engineering part of Computer Engineering. Awarded by the Institute of Engineering, Central Campus Pulchowk.

PUBLICATIONS

PEER-REVIEWED CONFERENCE PAPERS AND POSTERS

- [C.2] **Kishan K C, Rui Li, Feng Cui, Qi Yu, Anne Haake.** 2019. "GNE: A deep learning framework for gene network inference by aggregating biological information". The Asia Pacific Bioinformatics Conference. (APBC 2019).
- [C.1] **Kishan K C, Rui Li, Feng Cui, Anne Haake.** 2018. "Learning topology-preserving embedding for gene interaction networks". 17th European Conference on Computational Biology. (ECCB 2018). (Poster).

OTHER PRESENTATIONS

- [Poster.3] **A deep framework for aggregating heterogeneous biological information for gene network inference**
Biological Data Science, Cold Spring Harbor Laboratory, 2018
- [Poster.2] **Gene Network Embedding.**
New Deep Learning Techniques, IPAM, UCLA, 2018
- [Poster.1] **Reconstruction of Gene Regulatory Networks with Ensemble SVM.**
AI@GCCIS: Golisano College Research & Innovation Showcase, RIT, 2017
- [Talk.5] **Learning Sparse and Structure Gaussian Embedding of Protein sequences using pairwise constraints**
RIT Graduate Showcase, RIT, 2019. (🏆 Best Oral Presentation Award)
- [Talk.4] **Learning representation from protein sequences**
Guest talk, CISC 865.01 Deep Learning, RIT, 2019
- [Talk.3] **Pytorch Tutorials**
Guest talk, CISC 865.01 Deep Learning, RIT, 2019
- [Talk.2] **Deep Learning on Graphs.**
Guest talk, Deep Learning Seminar, RIT, 2018
- [Talk.1] **Introduction to Neural Networks.**
Guest talk, , CISC 863.01 Statistical Machine Learning, RIT, 2018

SKILLS

Data Science tools	IPython, NumPy, Pandas, SciPy, Matplotlib, Seaborn, NetworkX
Deep Learning	PyTorch

Machine Learning
Programming Languages
Databases

Scikit-learn (Python), Caret (R)
Python, Java, R
SQL, PL/SQL


CERTIFICATIONS

Data Science Certification, Coursera	2016
Statistical Learning, Stanford Online	2015

OPEN SOURCE PROJECTS

Gene Network Embedding (GNE)

Designed and developed a deep learning method that integrates network structure with gene expression data to learn interpretable embeddings and demonstrated the state-of-the-art performance in gene interaction inference.

 [GNE](#)
(TensorFlow)

Attentive Multimodal Tied Autoencoder (AMTAE)

Designed and implemented a new interpretable network fusion method with 73% fewer parameters than the state-of-the-art method (deepNF) and demonstrated comparable performance.

 [AMTAE](#)
(PyTorch)

Agricultural Data Integration and Analysis

Integrated multiple factors to understand their effect of crop production and build a recommendation system to suggest appropriate crop cultivation