# Kishan K C — Curriculum Vitae

Rochester Institute of Technology
Golisano College of Computing and Information Sciences
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**Research Interests:** Deep Learning; Graph Neural Networks; Computational Biology; 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 biological data for genetic interaction network inference and gene function prediction.
**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** — **2011 – 2015**
Central Campus Pulchowk, Tribhuwan 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
- Bayesian learning of deep neural network architecture to integrate diverse biological data for genetic interaction network inference and gene function prediction.

**Research and Development, Verisk Information Technologies** — **Kathmandu, Nepal**
Data Engineer — May 2015 - Jun 2016
**Project**: Medical Intelligence
- Involved in requirement understanding and requirement-wise design.
- Implemented clinical logic with PL/SQL package, function, procedure, triggers, etc.

**Data Warehouse ETL Team, Yomari Inc. Pvt. Ltd.** — **Lalitpur, Nepal**
Software Trainee — Oct 2014 – Apr 2015
**Project**: Express Enterprise Data Warehouse (EDW)
- Developed ETL scripts to load data from multiple retail stores to the data warehouse.
- Developed an ETL process validation framework to ensure the successful transfer of data from source to destination.
- Created a wrapper function to automate the execution of test scripts and log output to database tables.

## SCHOLARSHIPS, AND AWARDS

**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).

### PREPRINTS

**[P.1]** **Kishan K C**, Rui Li, Feng Cui, Anne Haake. 2019. "Interpretable Sparse Gaussian Embedding for Protein-Protein Interaction Prediction". In submission.

## 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.2]** **Deep Learning on Graphs.**

- Guest talk, Deep Learning Seminar, RIT, 2018

**[Talk.1]** **Introduction to Neural Networks.**

- Guest talk, Statistical Machine Learning, RIT, 2018

## SKILLS

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|---|---|
| **Deep Learning Packages** | PyTorch |
| **Programming Languages** | Python, Java, R |
| **Other Skills** | Scrum Agile Framework |

## 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)