

# BHAVYA BHATT

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## EXPERIENCE

### SOFTWARE RESEARCH INTERN

#### Siemens Technology and Services Pvt. Ltd.

Jun 2019 – Aug 2019 Bengaluru, India

- Implemented four different types (Tensor Product Compositional, HOLE, ComplEx, QuatE) of Knowledge Graph embedding architectures in PyTorch.
- Proposed a model for learnable background non-euclidean geometry.

### SOFTWARE RESEARCH INTERN

#### Siemens Technology and Services Pvt. Ltd.

Dec 2018 – Feb 2019 Bengaluru, India

- Processing internal service logs for building shift-right testing application.
- Used recurrent neural networks (LSTM) to predict most probable test cases which user can execute.
- Analyse the data for anomaly detection in the logs sequence dataset by probability estimation method.

### SUMMER RESEARCH INTERN

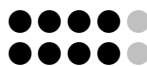
#### Tata Institute of Fundamental Research

Jun 2018 – Aug 2018 Mumbai, India

- Proposed a new approach for path integrals formulation of collapse models like GRW and other "all particle" dynamical theories.

## SOFTWARE SKILLS

Programming Languages - C/C++, Python  
Deep Learning



## APPLIED SKILLS

- Python Libraries and Frameworks :
  - PyTorch (Advanced), TensorFlow, Keras
  - Git
- Applied Mathematics :
  - Mathematics of Machine Learning
  - Tensor Calculus, Differential Geometry, Manifold Analysis
  - Stochastic Processes, Ito Calculus
  - Group Theory and Algebra (Basic)

## POSITIONS OF RESPONSIBILITY

### MENTOR

#### Summer of Code in Space, ESA

May 2019 – Sep 2019

- Assigned as honorary-project mentor in SOCIS(Summer of Code in Space) organized by ESA(European Space Agency) for The EinsteinPy Project.

## EDUCATION

### B.Tech (Computer Science Engineering)

#### Indian Institute of Technology, Mandi

2016-2020 Mandi

- CGPA: 8.06/10

### CBSE (Higher Secondary)

#### MDS Public School

2016 Thokar, Udaipur

- 93.5%

### CBSE (Matriculation)

#### St. Gregorios. Sen. Sec. School

2014 Ayar, Udaipur

- CGPA: 9.6/10

## PROJECTS

### THE PYGLOW PROJECT

- Founder of PyGlow - A Python package for information theory of deep learning.
- Package is a part of ongoing final year major technical project in the field of "Mathematics of Deep Learning".
- The project demands the need for exploring cross field topics from information theory, statistical physics, group theory and complexity theory. Aim is to experiment with these ideas in practice.
- GitHub Repo: <https://github.com/spino17/PyGlow>
- Package available on PyPI at: <https://pypi.org/project/PyGlow/>

### THE EINSTEINPY PROJECT

- Co-Founder of EinsteinPy - A Python package for numerical relativity.
- Partly sponsored by ESA(European Space Agency).
- Soon to be a sub-organization under OpenAstronomy.
- GitHub Repo <https://github.com/einsteinpy/einsteinpy>

## PUBLICATIONS

- Work at TIFR, Mumbai on path integrals for all particle dynamical theories resulted into a paper "path integrals, spontaneous localization and classical limit". <https://arxiv.org/abs/1808.04178>.