# BISWAJIT PARIA

GHC 8003, Carnegie Mellon University, 5000 Forbes Ave, Pittsburgh PA, 15213, USA.
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## Research Interests

Active Optimization, Deep Learning

## Education

**Carnegie Mellon University**, Pittsburgh, PA — Sep 2017 - Present
M.S., Ph.D. in Machine Learning. *Advisors:* Barnabás Póczos, Jeff Schneider

**Indian Institute of Technology Kharagpur**, India — Jul 2012 - Apr 2017
5-year Bachelors and Masters in Computer Science and Engineering

## Internships

Summer Research Intern — Google Research. Mountain View, CA, 2020
**Hierarchical Time-Series Forecasting** *with* Abhimanyu Das, Amr Ahmed
*Proposed methods for forecasting of time series arranged in an hierarchy.*

Summer Research Intern — Snap Research. Los Angeles, CA, 2018
**Sparse Representations for Fast Retrieval** *with* Ian En-Hsu Yen, Ning Xu
*Proposed an approach to sparsify image embeddings in order to speed up retrieval using sparse matrix multiplication operations.*

## Relevant Papers

B. Paria, W. Neiswanger, R. Ghods, J. Schneider, B. Póczos. *Cost-Aware Bayesian Optimization via Information Directed Sampling.* ICML Workshop on Real World Experiment Design and Active Learning, 2020. (paper)

K. Kandasamy, K. R. Vysyaraju, W. Neiswanger, B. Paria, C. R. Collins, J. Schneider, B. Póczos, E. P. Xing. *Tuning Hyperparameters without Grad Students: Scalable and Robust Bayesian Optimisation with Dragonfly.* Journal of Machine Learning Research, 2020. (arxiv, paper)

B. Paria, C.K. Yeh, I.E.H. Yen, N. Xu, P. Ravikumar, B. Póczos. *Minimizing FLOPs to Learn Efficient Sparse Representations.* International Conference on Learning Representations, 2020. (paper, code)

B. Paria, K. Kandasamy, B. Póczos. *A Flexible Framework for Multi-Objective Bayesian Optimization using Random Scalarizations.* Uncertainty in Artificial Intelligence, 2019. (oral presentation, arxiv, paper)

B. Paria, K.M. Annervaz, A. Dukkipati, A. Chatterjee, S. Podder. *A Neural Architecture Mimicking Humans End-to-End for Natural Language Inference.* arXiv, 2016. (arxiv)

A. Lahiri, B. Paria, P.K. Biswas. *Forward Stagewise Additive Model for Collaborative Multiview Boosting.* IEEE Transactions in Neural Networks and Learning Systems, 2016. (arxiv, paper)

## Honours & Awards

Prime Minister of India Gold Medal — *IIT Kharagpur, 2017*
*Awarded to the top ranked graduating student*

Viterbi-India Scholar — *2015*
*Funded summer internship at Viterbi School of Engineering, USC*

ACM ICPC World Finalist (Team *BitBees*) — *2015*
*One of 7 teams from India at the International Collegiate Programming Competition*

Indian National Physics Olympiad (INPhO) Awardee — *2012*
*for being among the top 30 candidates in India*
*Attended the team selection camp for the International Physics Olympiad (IPhO)*

Indian National Mathematical Olympiad (INMO) Awardee *2010 - 2012*
*for being among the top 30 candidates in India*
*Attended the team selection camp for the International Mathematics Olympiad (IMO)*

Kishore Vaigyanik Protsahan Yojana (KVPY) Scholar *DST [1], Govt. of India, 2011*
*for exceptional aptitude in basic sciences, 7th rank in India*

Australian Mathematics Competition (AMC) Gold Medallist *AMT [2], 2009*
*One of 23 medallists in the world*

## Programming Skills

Python, Matlab, C, C++, bash
Libraries: Tensorflow, PyTorch, numpy, sklearn

## Relevant Courses

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|---|---|
| Advanced Introduction to Machine Learning | CMU, Fall 2017 |
| Intermediate Statistics | CMU, Fall 2017 |
| Statistical Machine Learning | CMU, Spring 2017 |
| Probabilistic Graphical Models | CMU, Spring 2017 |
| Advanced Statistical Theory | CMU, Fall 2018 |
| Martingales | CMU, Fall 2018 |

## Service & Other

**Teaching Assistantships:**

| | |
|---|---|
| Advanced Machine Learning | CMU, Spring 2019 |
| Convex Optimization | CMU, Fall 2018 |
| Deep Learning | IIT Kharagpur, Spring 2017 |
| Machine Learning | IIT Kharagpur, Fall 2016 |

**Math Olympiad Teaching** 2012 & 2013
Taught number theory and combinatorics to high school students

**National Service Scheme (NSS)** 2012 & 2013
Served under the NSS to work for the betterment of underpriviledged children at a village primary school.

[1] Department of Science and Technology
[2] Australian Mathematics Trust