

# Mrinmoy Maity

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## EDUCATION

### INDIANA UNIVERSITY

MS, INTELLIGENT SYSTEMS  
Bloomington, IN  
Aug 2017 - May 2019  
GPA: 3.81/4.0

### INDIANA UNIVERSITY

MS, COMPUTER SCIENCE  
Bloomington, IN  
Aug 2014 - May 2016  
GPA: 3.86/4.0

### JADAVPUR UNIVERSITY

BTECH., COMPUTER SCIENCE  
Kolkata, WB  
Jul 2007 - Jun 2011  
GPA: 8.51/10.0

### PATHA BHAVAN

Jun 1992 - May 2007  
Kolkata, WB

## INTERESTS

Deep Learning • Computer Vision •  
Speech Processing • Natural Language  
Processing • Data Sciences

## SKILLS

### PROGRAMMING

Proficient:

Python • Java • C • C++ • R  
• Matlab • Assembly •  $\text{\LaTeX}$

Familiar:

iOS • Android • CSS • PHP

### DL FRAMEWORKS

Tensorflow • Theano • Keras  
• Neon • Caffe • PyTorch • Lasagne

### LIBRARIES

Scikit-learn • Nltk • Numpy • Spark  
• Spacy • Textacy • Pandas

### DATABASES

MongoDB • MySQL

### VISUALIZATION

Tableau • NetworkX • Matplotlib

### SYSTEMS

Cluster Computing Systems  
for WorkLoad balance ML models  
(Netscaler/Citrix • BigRed2 &  
FutureSystems/IUB)

## EXPERIENCE

### INTEL AI | DATA SCIENCE INTERN

May 2017 – Aug 2017 | San Diego, CA

- Implemented state-of-art autoregressive generative models on Neon and Tensorflow to generate synthetic realistic images as a part of Model Zoo.

### CITRIX SYSTEMS | SOFTWARE DEVELOPMENT ENGINEER 2

Jul 2011 - Jul 2014 | Bengaluru, Karnataka

- One of two contributors to an entire feature(AppQoS) in Netscaler 10.0.
- Designed efficient structures that prioritized packet processing depending of traffic tiers and improved speed by over 50 %.
- Developed cluster configuration management for Netscaler as cross-team collaboration to handle 8 times faster traffic.

### TATA CONSULTANCY SERVICES | SOFTWARE INTERN

May 2009 - Jul 2009 | Kolkata, WB

## RESEARCH

### SIGNAL PROCESSING & AI LAB | Indiana University Bloomington

Aug 2016 – May 2019 | Supervised by Prof. Minje Kim | Bloomington, IN

- Specialize in applying ML/DL models to solve acoustic modeling and signal processing problems, specifically on resource constraint mobile devices.
- Developed algorithms of extreme quantization on DL models that makes computations 16x faster, reduces memory by 8x and consume less energy.
- Introduced quantization of networks to newer domains like Speech/Signal Processing and recurrent class of architectures like LSTM and GRU.

### REINFORCEMENT LEARNING LAB | Indiana University Bloomington

Aug 2015 – May 2016 | Supervised by Prof. Martha White | Bloomington, IN

- Developed temporal difference learning for multistep prediction taking long distance horizon in account as done in reinforcement approach.

### IMAGE PROCESSING LAB | Jadavpur University

Aug 2009 – May 2010 | Supervised by Prof. Subhajit Basu | Kolkata, WB

- Designed user independent language model representing the handwritten Roman digit-set on top of Tesseract OCR.

## PUBLICATIONS

- [1] S. Kim, M. Maity, and M. Kim. Incremental binarization on recurrent neural networks for single-channel source separation. *ICASSP*, 2019.
- [2] S. Rakshit, A. Kundu, M. Maity, S. Mandal, S. Sarkar, and S. Basu. Recognition of handwritten roman numerals using tesseract open source ocr engine. *Int. Conf. on Advances in Computer Vision and Information Technology*, 2009.
- [3] X. Yang, B. Chen, M. Maity, and E. Ferrara. Social politics: Agenda setting and political communication on social media. *SocInfo*, 2016.

## HONORS

- Member of research project on efficient DL funded by Intel and ETRI
- Invited Lecturer for Deep Learning Summer School 2018, GIT, Poland
- Nominated for best Associate Instructor for academic year 2015-16
- Receiver of national MCM scholarship during Undergraduate, 2007-11
- Awarded Pabesha Vidyajyoti for academics at Patha Bhavan 2002-03