# Ameya Godbole

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## EDUCATION

**UNIVERSITY OF MASSACHUSETTS AMHERST**                    Amherst, MA | Expected: May 2020
MS in Computer Science

**IIT (INDIAN INSTITUTE OF TECHNOLOGY) GUWAHATI**              Guwahati, India | May 2018
B.Tech in Electronics & Communication Engineering
Minor in Computer Science & Engineering
Major GPA: 9.15/10 | Minor GPA: 8.8/10

## PUBLICATIONS

[1]  Ameya Godbole, Spoorthy Bhat and Prithwijit Guha. "Progressively Balanced Multi-class Neural Trees". NCC 2018 (Presented)
[2]  Ameya Godbole, Aman Dalmia and Sunil Kumar Sahu. "Siamese Neural Networks with Random Forest for detecting duplicate question pairs". arXiv:1801.07288

## EXPERIENCE

**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING**         May 2016 – July 2016 | Pune, India
Software Development Intern
- Designed and contributed to a molecular dynamics simulator under the Bioinformatics Resources and Applications Facility at CDAC
- Studied the principles of parallel computing and implemented the same with MPI to make a simulator capable of utilizing the processing capabilities of a CPU cluster

## PROJECTS

**PROGRESSIVELY BALANCED MULTI-CLASS NEURAL TREES**
Dr. Prithwijit Guha, Dept. of EEE, IIT Guwahati                    Aug 2017 – May 2018
- Proposed and tested an entropy impurity based objective function for incorporating a learnable perceptron into the decision tree framework.
- The learned classifier achieves comparable accuracy with fewer test time computations than an MLP.

**COMMERCIAL SEGMENTATION IN TELEVISION STREAM**
Dr. Prithwijit Guha, Dept. of EEE, IIT Guwahati                    Jun 2017 – Aug 2017
- Attempted segmentation of commercials in television stream through audio-visual feature engineering and application of sequence classifier.

**DEEP SEMANTIC KERNEL (DESK)**
Dr. Amit Sethi, Dept. of EEE, IIT Bombay                          May 2017 - Jun 2017
- Applied transfer learning by leveraging capabilities of CNN in the source domain and maximum margin classifiers in the low-data target domain, especially in image classification tasks.

**QUORA QUESTION PAIRS (KAGGLE)**                                    Website
Collaborator: Aman Dalmia                                         Apr 2017 - Jun 2017
- Trained a Siamese Gated Recurrent Unit (GRU) RNN over sentence pairs to detect duplicate questions.
- Our team secured a position in the top 25% among 3000+ teams on Kaggle.

**BUFFERLESS ROUTEING IN NETWORK-ON-CHIP**                           Repository
Dr. John Jose, Dept. of CSE, IIT Guwahati                         Dec 2016 - Feb 2017
- Designed a network traffic simulator to study on-chip interconnection networks composed of bufferless routers.

**AUTONOMOUS INTELLIGENT ROBOT**
Robotics Club, IIT Guwahati                                       Jan 2015 - Apr 2015
- Implemented simultaneous localization and mapping (SLAM) and visual odometry to create a robot capable of mapping and navigating its environment.

## SCHOLASTIC ACHIEVEMENTS

**SECURED MERIT-BASED CHANGE OF DISCIPLINE** from Electronics and Electrical Engineering to Electronics and Communication Engineering in July 2015

Secured **ALL INDIA RANK 1893 IN JEE ADVANCED 2014** (out of 126k)

Secured **ALL INDIA RANK 547 IN JEE MAINS 2014** (Percentile score: 99.87)

Qualified for the state level of the **REGIONAL MATHEMATICS OLYMPIAD** by securing top position in the Mumbai Regional stages of 2013 and 2012

## TECHNICAL SKILLS

| | |
|---|---|
| PROGRAMMING LANGUAGES | Python, C++, C |
| FRAMEWORKS/LIBRARIES | TensorFlow, Keras, MATLAB |
| MISCELLANEOUS | Numpy, Pandas, scikit-learn, OpenMP, MPI |

## COURSEWORK

**GRADUATE**

- **AI:** Machine Learning (COMPSCI 689)*, Reinforcement Learning (COMPSCI 687)*
- **THEORY:** Algorithms for Data Science (COMPSCI 514)*

  * Ongoing

**UNDERGRADUATE**

- **MACHINE LEARNING:** Spoken Language Systems, Computer Vision, Pattern Recognition & Machine Learning
- **COMPUTER SCIENCE:** Algorithms & Data Structures, Computer Systems, Computer Architecture
- **ELECTRONICS & COMMUNICATION:** Advanced Topics in Random Processes, Information Theory & Coding, Image Processing, Communication Networks
- **MATHEMATICS:** Mathematical Techniques for Control and Signal Processing, Linear Algebra, Mutivariable Calculus, Differential Equations

**OPENCOURSEWARE**

- **DEEP LEARNING** , a 5-course specialization by deeplearning.ai on Coursera
- **PROBABILISTIC GRAPHICAL MODELS 1: REPRESENTATION** by Stanford University on Coursera

## EXTRACURRICULAR ACHIEVEMENTS

**1ST PLACE AT HACK IN THE EAST** JAN 2018

Created a prototype to demonstrate the idea of Waste disposal using Deep Learning on Drone Images

**9TH PLACE IN GS QUANTIFY '18 AMONG 270+ TEAMS ALL OVER INDIA** OCT 2017

The challenge involved 3 questions from Computer Science, Machine Learning & Quant. I was responsible primarily for the Quant question and contributed partly to the ML question as well