**Nikit Begwani**
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## EDUCATION

**Indian Institute of Technology, Guwahati, India** 2013-2017
*Bachelor of Technology in Computer Science and Engineering.*

CGPA: **9.42/10**. Consistently in Top 3 out of 88 students in last 3 semesters

**Central Model School, Barrackpore, India** 2011-2013

Secured 87.8% (93% in science) in Senior Secondary Certificate Examination (CBSE)

**St. Helen's School, Kolkata, India** 2009-2011

Rank 1 among 150 students with 94.4% (96% in science) in Secondary Education Examination (ICSE)

## PUBLICATIONS

- **N.Begwani**, S.Harsola, R.Agrawal, *Learning From Weights: A Cost-Sensitive Approach For Ad Retrieval.* In Proceedings of DAPA 2019 WSDM Workshop on Deep matching in Practical Applications (DAPA 19) [**Accepted**] [arXiv]
- **N.Begwani**, S.Harsola, R.Agrawal, *Cost-sensitive Learning of Deep Semantic Models for Sponsored Ad Retrieval*, Microsoft Journal of Applied Research, Fall 2018 [**Paper and Talk**] [Submitted - **WWW'19**]

## RESEARCH EXPERIENCE

**Microsoft India(R&D) Pvt. Ltd.** Research Engineer (July'17 - Present)
*Bing Ads (AI+R Division)* *Summer Intern (May'16 - July'16)*

- Working on improving sponsored search experience on Bing platform across multiple cross-lingual markets using deep semantic based retrieval models
- Trained, Evaluated and deployed production scale neural network models like sequence-to-sequence, LSTM, CLSM and FastText for multiple language on bing live traffic

**Gifu University** Dec'15
*Prof. Hiroyuki Koyama, Faculty of Applied Biological Sciences* *Winter School*

- Established correlation between various soil conditions and plant phenotype and thereby forecasting environmental influence on plant growth
- Part of delegation of 8 students chosen to represent IIT Guwahati as Winter School

## TEACHING/MENTORING EXPERIENCE

**Undergraduate Teaching Assistant** 2014-2015
*Indian Institute of Technology, Guwahati*

- Mentored 12 students as a TA for freshman 'Introduction to Computing' course

**Peer Mentor, Institute Mentorship Program** 2015-2016
*Indian Institute of Technology, Guwahati*

- Mentored 14 freshman students to settle and excel in their academic and non-academic pursuits

**Mentor, AXLE (A Microsoft and academia collaboration)** 2017-Present
*Microsoft India(R&D) Pvt. Ltd.*

- Mentoring college students in building technologies to better predict and manage natural disasters

## RESEARCH PROJECTS

**Variations & Improvements on Semantic Models** Apr'18-Present
*Principal Research Manager - Rahul Agrawal, Microsoft*

- Employed cost-sensitive learning on query-ad pairs which showed huge improvements in clicks (+11%) and bounce rate (-8%)
- Studying the effect of implicit and explicit negative samples using document category and user click preference as opposed to providing random negative sample in semantic models

· Working on wide semantic models on ad copies which helps incorporate more features of ads without increasing any online latency while processing the query

**Understanding Multilingual Sentiment Analysis on Twitter Data** July'17 - Apr'17
*Prof. S.R. Singh* *B.Tech. Thesis*

· Analysed the sentiment shifts within statements and proposed a bi-LSTM model in order to capture them which gave a lift of 13% in accuracy
· Conducted preliminary experiments using different baseline classifiers like SVM , Random Forest on Twitter dataset to ensure that human sentiment in regions of world aligns with any major happening
· Explored multimodal techniques to combine sentiment signals coming from various media

**Generating Responses to Contextual Queries of Reading Comprehensions** Jan'17-Apr'17
*Prof. Ashish Anand* *Course Project*

· Developed a model based on attention networks for capturing relations between questions and contexts
· Hypothesized regarding the sufficiency of text summarization for answering queries
· Evaluated our approach on Stanford Question and Answering Dataset (SQuAD)

## ACHIEVEMENTS

· Microsoft Bing Ads FY2018 Q4 Award for **Excellence in Innovation** (2018)
· Among the **Top 10 teams in National Final** of Microsoft code.fun.do (2017)
· **Two time winning team** at Microsoft code.fun.do (Campus Edition) (2014 & 2016)
· **Joint Entrance Examination** - Among Top 0.07% students (2013)
· State wise **Top 1% rank** in National Standard Examination in Chemistry (2012)
· Twice selected for the All India Talent Search Examination-Scholarship (2009 & 2010)

## ADDITIONAL EXPERIENCE

**MAQ Software** May'15-July'15
*Cloud and Enterprise* *Software Engineering Intern*

· Analyzed Microsoft's Xbox sales data and provided insights in terms of sales prediction and prospective target markets
· Developed Campaign ID Generator tool which assigns unique id to each product campaign randomly

## ADDITIONAL PROJECTS

**Transcriber: Extraction and Summarization of Meeting Minutes** Nov'16-Apr'17

· Implemented a product capable of transcribing speech (using Bing Cognitive Services Speech API), extracting a summary (using LSA), identifying action items and notifying interested users
· Only college project to be invited for a demonstration at Microsoft Future decoded(2017), Mumbai

**FindIt! - Text based retrieval system** Sep'16-Nov'16

· Developed a GUI-based retrieval system by indexing wikipedia documents (using TF-IDF & LSI)
· Compared the performance of LSI, TF-IDF and NMF using different clustering approaches

**Distracted Driver Detection** Sep'16-Nov'16

· Used region proposal networks and resnet to determine whether a driver is distracted or not

## RELEVANT COURSE WORK

| | | | |
|---|---|---|---|
| Information Retrieval | Intelligent Systems(NLP) | Linear Algebra | Optimization |
| Probability and Random Processes | Operating Systems | Computer Vision | Databases |
| Pattern Recognition* | Algorithmic Game Theory | Deep Learning* | Compilers |

*Voluntary Additional Courses

## TECHNICAL SKILLS

| | |
|---|---|
| **Languages** | Python, C/C++, C#, R, Java |
| **Packages/Libraries** | Tensorflow, Keras, CNTK, NumPy, scikit-learn, NLTK, pandas, yacc, LaTeX |
| **Miscellaneous** | SQL, Visual Studio, Git, Django |