

# KUSHAL CHAWLA

University of Southern California

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## EDUCATION

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**University of Southern California**

2019 – *Present*

*Ph.D. in Computer Science*

- *Advisors:* Gale Lucas, Jonathan Gratch
- *Research Interests:* Enabling Human Computer Interactions through Natural Language
- *Current GPA:* 4.0/4.0

**Indian Institute of Technology Guwahati**

2013 – 2017

*B.Tech. in Computer Science & Engineering*

- *GPA:* 9.76/10 (Institute Rank 2 in  $\sim 650$ )

## EXPERIENCE

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**Researcher, Big Data Experience Labs, Adobe Research**

2017 – 2019

- Driving multiple projects with major focus on understanding various properties of textual content and generating text tuned towards it. Publications and other projects below.

**Intern, Big Data Experience Labs, Adobe Research**

*Summer* 2016

*Dr. Ritwik Sinha*

- Applied Frequent Itemset Mining and Time Series Analysis in a team of two, estimating the size of target audience in terms of bid requests received by Adobe Media Optimizer (AMO).
- Filed a patent and published the work at AdKDD workshop in KDD 2018.

**Intern, Center for Quantum Technologies,**

**National University of Singapore**

*Summer* 2015

*Prof. Rahul Jain*

- Worked on the communication of quantum information through a noisy, quantum channel and studying the near optimality of Petz Recovery Map.

## PUBLICATIONS

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- *Generating Formality-tuned Summaries Using Input-dependent Rewards*, **K Chawla**, N Chhaya, B Srinivasan, In Proceedings of the The SIGNLL Conference on Computational Natural Language Learning (ConLL 2019)
- *Gated Convolutional Encoder-Decoder for Semi-Supervised Affect Prediction*, **K Chawla**, S Khosla, N Chhaya, In Proceedings of the 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2019)
- *Improving Generation Quality of pointer Networks via Guided Attention*, **K Chawla**, K Krishna, B Srinivasan, In Proceedings of the 20th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing 2019)
- *Generating summaries tailored to target characteristics*, **K Chawla**, H Singh, A Pramanik, M Kumar, B Srinivasan, In Proceedings of the 20th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing 2019)

- *Sequence learning using content and consumption patterns for user path prediction*, **K Chawla**, N Chhaya, A Singh, S Vadlamannati, A Agrawal, In Proceedings of the 24th International Conference on Intelligent User Interfaces (IUI 2019).
- *Aff2Vec: Affect-Enriched Distributional Word Representations*, S Khosla, N Chhaya, **K Chawla**, In Proceedings of the 27th International Conference on Computational Linguistics (COLING 2018).
- *Forecasting Granular Audience Size for Online Advertising*, R Sinha, D Singal, P Maneriker, **K Chawla**, Y Shrivastava, D Pai, A Sinha, AdkDD and TargetAd workshop at The 24th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2018).
- *Frustrated, Polite, or Formal: Quantifying Feelings and Tone in Email*, N Chhaya, **K Chawla**, T Goyal, P Chanda, J Singh, In Proceedings of the Second Workshop on Computational Modeling of People's Opinions, Personality, and Emotions in Social Media, NAACL HLT 2018.
- *Investigating How Well Contextual Features are Captured by Bi-directional Recurrent Neural Network Models*, **K Chawla**, SK Sahu, A Anand, In Proceedings of the 14th International Conference on Natural Language Processing (ICON 2017).

## OTHER PROJECTS

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- Performed English Preposition Sense Disambiguation using transfer learning approach by combining with general word disambiguation task. Links: *Github Report Slides* 2017
- Designed a C-like language and its compiler in a team of 3. Link: *Github* 2016
- Created a Dual Axis Solar tracker in a team of 4. Link: *Report* 2015
- Built a Hospital Management System for university hospital, mainly contributing to the backend in a team of 17. Link: *Github* 2015

## CO-AUTHORED PATENTS

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- Machine Learning Techniques for Generating Document Summaries Targeted to Affective Tone; US Patent Application No. 16/270,191 [FILED]
- Generating Summary Content Tuned To a Target Characteristic Using a Word Generation Model; US Patent Application No. 16/262,655 [FILED]
- Detecting Affective Characteristics Of Text With Gated Convolutional Encoder-Decoder Framework; US Patent Application No. 16/224,501 [FILED]
- Content Optimization for Audiences; US Patent Application No. 16/024,131 [FILED]
- Method for Predicting Mood (Affective-Tone) In Text Content For Interpersonal Communication; US Patent Application No. 15/945,996 [FILED]
- Augmented Reality Based Virtual Sales-Person that Provides Recommendation Based on Intent of Purchase Identified from Facial Actions Units; US Patent Application No. 15/868,531 [FILED]
- Forecasting Potential Audience Size and Unduplicated Audience Size for Display Advertising; US Patent Application No. 15/435,869 [PUBLISHED]
- One other in filing process

## TECHNICAL STRENGTHS

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<b>Computer Languages</b>	Python, R, C/C++, LaTeX
<b>Deep Learning Frameworks</b>	Tensorflow, PyTorch
<b>Software &amp; Tools</b>	Android Studio, Visual Studio, Eclipse, MS Office.
<b>Operating Systems</b>	Linux, Windows

## ACHIEVEMENTS

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- Annenberg Fellow at USC.
- Recipient of IIT Guwahati Institute Merit Scholarship (IMS) for the year 2014 – 15.
- B-Tech First Year Institute Topper with GPA-10/10, and was offered a Branch Change to Computer Science and Engineering (previous branch - Electrical Engineering).
- All India Rank 62 in KVPY Government of India Fellowship 2012.

## ACTIVITIES AND VOLUNTEERING

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- A sub-reviewer at the International Conference on Data Science and Management of Data (CoDS-COMAD 2019)
- Co-mentored 10 undergraduate researchers in Adobe's summer research internship program.
- A Teaching Assistant for 2015 University Freshers in Introduction to Computing course.
- Events Manager and Marketing Executive at the annual cultural festival of IIT Guwahati - Alcheringa 2015.
- Beginner Guitarist and Singer, tried Hindi ([\*Link\*](#)) and English ([\*Link\*](#)) songs.