KUSHAL CHAWLA

University of Southern California
kchawla@usc.edu ⋄ kushalchawla.github.io

EDUCATION

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

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

- *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

- 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

- Forecasting Potential Audience Size and Unduplicated Audience Size; US Patent Publication No. US 2018/0240149 A1 [PUBLISHED]
- Augmented reality predictions using machine learning; US Patent Publication No. US 2019/0213403 A1 [PUBLISHED]
- Prediction of tone of interpersonal text communications; US Patent Publication No. US 2019/0311035 A1 [PUBLISHED]
- Content Optimization for Audiences; US Patent Publication No. US 2020/0004820 A1 [PUBLISHED]
- Detecting Affective Characteristics Of Text With Gated Convolutional Encoder-Decoder Framework; US Patent Application No. 16/224,501 [FILED]
- Generating Summary Content Tuned To a Target Characteristic Using a Word Generation Model; US Patent Application No. 16/262,655 [FILED]
- Machine Learning Techniques for Generating Document Summaries Targeted to Affective Tone; US Patent Application No. 16/270,191 [FILED]
- Affect-enriched Vector Representation of Words for use in Machine-Learning Models; US Patent Application No. 16/412,868 [FILED]
- Web Experience Augmentation Based on Local and Global Content Preferences; US Patent Application No. 16/570,910 [FILED]
- One other in filing process

TECHNICAL STRENGTHS

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

ACHIEVEMENTS

- 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

- 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.