KUSHAL CHAWLA

University of Southern California
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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
Undergraduate in Computer Science & Engineering

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

EXPERIENCE

Researcher, Big Data Experience Labs, Adobe Research 2017 – 2019

- Primarily focused on understanding affect and semantic properties of textual content and generating text tuned towards it. Publications and patents 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

- Enabled the communication of quantum information through a noisy quantum channel via near optimality of Petz Recovery Map.

SELECTED PUBLICATIONS

- A Sancheti, **K Chawla**, G Verma, *LynyrdSkynyrd at WNUT-*2020 *task* 2*: semi-supervised learning for identification of informative COVID-19 english tweets*, WNUT, EMNLP 2020.
- **K Chawla**, N Chhaya, *Session-Based Path Prediction by Combining Local and Global Content Preferences*, ECIR 2020.
- **K Chawla**, N Chhaya, B Srinivasan, *Generating Formality-tuned Summaries Using Input-dependent Rewards*, CoNLL 2019.
- **K Chawla**, S Khosla, N Chhaya, *Gated Convolutional Encoder-Decoder for Semi-Supervised Affect Prediction*, PAKDD 2019.
- S Khosla, N Chhaya, **K Chawla**, *Aff2Vec: Affect–Enriched Distributional Word Representations*, COLING 2018.

· N Chhaya, **K Chawla**, T Goyal, P Chanda, J Singh, *Frustrated, Polite, or Formal: Quantifying Feelings and Tone in Email*, PEOPLES, NAACL HLT 2018.

· **K Chawla**, SK Sahu, A Anand, *Investigating How Well Contextual Features are Captured by Bi-directional Recurrent Neural Network Models*, ICON 2017.

RECENT PROJECTS

· Collected a dataset of over one thousand negotiation dialogues for advancing the research in building automated negotiation systems. Overcoming shortcomings in the existing literature, our dialogues cover various aspects of real-world negotiations including preference discussion, emotion expression, exchanging offers, and usage of convincing strategies with personal and logical arguments, while still maintaining a constrained environment for reliable evaluation. The dataset also contains strategy annotations for nearly 400 dialogues, which will be released along with the dataset. An abstract of this work was presented at WeCNLP 2020. *Abstract* *Poster* *Video* *Ongoing*

· Built Pilot: winner of the human-agent negotiation challenge at the International Joint Conference on Artificial Intelligence (IJCAI-PRICAI 2020). *Pre-print* *Media coverage* *Presentation* 2020

· Designed a novel task of predicting negotiation outcomes, well before it is complete, to assess the role of natural language in negotiations. *Pre-print* 2020

CO-AUTHORED PATENTS

· Machine Learning Techniques for Generating Document Summaries Targeted to Affective Tone; US Patent Publication No. 2020/0257757 A1 [PUBLISHED]

· Generating Summary Content Tuned To a Target Characteristic Using a Word Generation Model; US Patent Publication No. 2020/0242197 A1 [PUBLISHED]

· Detecting Affective Characteristics Of Text With Gated Convolutional Encoder-Decoder Framework; US Patent Publication No. 2020/0192927 A1 [PUBLISHED]

· Content Optimization for Audiences; US Patent Publication No. 2020/0004820 A1 [PUBLISHED]

· Prediction of tone of interpersonal text communications; US Patent Publication No. 2019/0311035 A1 [PUBLISHED]

· Augmented reality predictions using machine learning; US Patent Publication No. 2019/0213403 A1 [PUBLISHED]

· Forecasting Potential Audience Size and Unduplicated Audience Size; US Patent Publication No. 2018/0240149 A1 [PUBLISHED]

· Web Experience Augmentation Based on Local and Global Content Preferences; US Patent Application No. 16/570, 910 [FILED]

· Affect-enriched Vector Representation of Words for use in Machine-Learning Models; US Patent Application No. 16/412, 868 [FILED]

k GRADUATE COURSEWORK

Advanced Topics in Deep Learning	Fall 2020
Affective Computing	Spring 2020
Advanced Natural Langauge Processing	Fall 2019

TECHNICAL STRENGTHS

Computer Languages	Python, C++
Libraries and Frameworks	PyTorch, Tensorflow, ParlAI, HuggingFace, React JS, IAGO Negotiation Framework

ACHIEVEMENTS

- First Prize at the Human-Agent Negotiation League at ANAC, IJCAI 2020.
- Awarded the Annenberg Fellowship for 4 years of Ph.D. at the University of Southern California.
- Recipient of the IIT Guwahati Institute Merit Scholarship (IMS) for the year $2014 - 15$.
- First Year Undergraduate Institute Topper with GPA 10/10, earning a change of Major from Electrical Engineering to Computer Science.
- All India Rank 62 in KVPY Government of India Fellowship 2012.

ACTIVITIES AND VOLUNTEERING

- Reviewer: ICON 2020, WNUT Workshop at EMNLP 2020
- Sub-reviewer: EMNLP 2020, CoDS-COMAD 2019
- Co-mentored 12 undergraduate researchers during summers at Adobe and USC.
- A Teaching Assistant for Introduction to Computing at IIT Guwahati.
- Volunteer English Teacher for rural students with *eVidyaloka* NGO in 2018-2019.
- Manager and Marketing Executive at the annual cultural festival of IIT Guwahati: Alcheringa 2015.