

KHYATHI RAGHAVI CHANDU

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Research Statement : The grand avid goal of my research is to enable seamless communication between humans and machines. I envision a trajectory towards virtual humans with augmented and virtual reality characters that interact with us based on relevance to audience from their clairvoyant faculties. With this overarching objective, I work towards improving Multimodal Natural Language Generation. Specifically, my PhD is focused on anchoring three narrative properties which are (1) content (2) structure and (3) surface realization seeking input from visual and textual modalities in addition to dealing with a mixture of languages. I believe this is a step towards realizing my research mission on flawless interaction with futuristic AI agents.

RESEARCH INTERESTS

Multimodal Learning, Conversational AI, Natural Language Generation, Multilingual, Question Answering

EDUCATION

2022 (Expected)	Carnegie Mellon University, PhD in Language Technologies
2018	Carnegie Mellon University, Masters in Language Technologies
2016	IIIT-H, Bachelors in Computer Science

INTERSHIPS

Google AI	Research Intern, SUMMER 2020 > Weak Supervision of content selection for better Controllability in Image Captioning
Apple	Research Intern, SUMMER 2019 > Transfer Learning for Code-Switched Named Entity Recognition
University of Pennsylvania	Research Intern, SUMMER 2015 > Converting unstructured medical abstracts to structured abstracts.
Indian Institute of Science	Visiting Student, SUMMER 2014

TALKS

Google	PhD Intern Research Conference, JULY 2020 > Topic : Towards effective controllability of multimodal narrative generation
WiNLP at ACL'20	Closing Remarks from organizers, JULY 2020 > Topic : Progress of Widening NLP and lessons learnt from virtual workshop
CMU	LTI Summer Seminar Series, JULY 2020 > Topic : Components of Neural Text Generation Details
CMU	Guest Lecture in Neural Networks for NLP, APRIL 2020 > Topic : Natural Language Generation Youtube Link
Facebook	Invited Research Talk, OCTOBER 2019 > Topic : Multimodal Narrative Intelligence
Apple	Guest Talk, AUGUST 2019 > Topic : Visual Story and Storyboard Generation

RESEARCH SERVICE

Organizer	Widening NLP (WiNLP) 2020 and 2021 (co-located with ACL), link
Organizer	Workshop on 'Generation, Evaluation, and Metrics' (submitted)
Program Committee Member	Humanizing AI at IJCAI 2019 and 2018, link
Co-chair	Academic Inclusion, Diversity & Inclusion at ACL 2020 and 2021, link
Panel moderator	Moderated a panel discussion at ACL 2020
Conference Reviewer	EMNLP 2020, ACL 2020 (Outstanding reviewer), COLING 2020, AACL 2020, EACL 2020, AAAI 2020, ACL 2019, AAAI 2019, NAACL 2018
Workshop Reviewer	ALVR-ACL 2020, SRW-ACL 2020, WiNLP-ACL 2020, CALCS-ACL 2018, Code-Switching Workshop-Interspeech 2020
Journal Reviewer	TALLIP 2020
Organizer	CMU LTI Open House Poster Session 2019, <i>Student Volunteer</i> : ACL 2019
Editor	ML @ CMU Blog

Theses

- > *PhD Thesis Proposal : Effective Controllability of Multimodal Narrative Intelligence* (CMU)
- > *Code-Mixed Question Answering for Indian Languages* (MS by Research at IIIT-H)

Proceedings

- > Proceedings of the The Fourth Widening Natural Language Processing Workshop [\[paper\]](#)

Conferences

- > **Khyathi Chandu**, Piyush Sharma, Ashish Thapliyal, Beer Changpinyo, Radu Soricut, “*Weakly Supervised Content Selection for Improved Image Captioning*” (submitted, under review) [\[paper\]](#)
- > **Khyathi Chandu**, Alan W Black, “*Dissecting the components and factors of Neural Text Generation*” (submitted, under review)
- > **Khyathi Chandu**, Ruo Ping, Alan W Black, “*Reading Between the Lines : Exploring Infilling in Visual Narratives*” (accepted at EMNLP 2020)
- > **Khyathi Chandu**, Alan W Black, “*Style Transfer as Vantage Point for Code-Switching*” (accepted at InterSpeech 2020) [\[paper\]](#)
- > **Khyathi Chandu**, Eric Nyberg, Alan W Black, “*Storyboarding of Recipes : Grounded Contextual Generation*” at ACL 2019. [\[paper\]](#)
- > **Khyathi Chandu**, Sai Krishna, Sunayana Sitaram, Alan W Black, “*Speech Synthesis for Mixed-Language Navigation Instructions*” at InterSpeech 2017. [\[paper\]](#)
- > **Khyathi Chandu**, Manoj Chinnakotla, Manish Shrivastava, “*Answer ka type kya he? Learning to classify questions in code-mixed language*”. in International Conference on World Wide Web (ICWWW) 2015. [\[paper\]](#)
- > **Khyathi Chandu**, Manoj Chinnakotla, Alan W Black, Manish Shrivastava “*WebShodh : A Code Mixed Factoid Question Answering System for Web*” in CLEF 2017 [\[paper\]](#)
- > Divya Jitta, **Khyathi Chandu**, Harsha Pamidipalli and Radhika Mamidi, “*Nee Intention enti?*” Towards Dialog Act Recognition in Code-Mixed Conversations. IALP 2017. [\[paper\]](#)
- > Prathyusha Kuncham, **Khyathi Chandu**, Kovida Nelakuditi, Dipti Misra Sharma, “*Domain Adaptation in Morphological Analysis*”. in International Journal of Languages, Literature and Linguistics 2015. [\[paper\]](#)

Journals

- > Sunayana Sitaram, **Khyathi Chandu**, Sai Krishna Rallabandi, Alan W Black A Survey of Code-switched Speech and Language Processing (under review) [\[paper\]](#)

Workshops

- > **Khyathi Chandu***, Ruo-Ping Dong*, Alan Black. *Entity Skeletons for Visual Storytelling* in LVU at CVPR 2020, ALVR at ACL 2020. [\[paper\]](#)
- > **Khyathi Chandu***, Shrimai Prabhumoye*, Ruslan Salakhutdinov, Alan Black. “*My Way of Telling a Story*” : Persona based Grounded Story Generation in StoryNLP at ACL 2019. [\[paper\]](#)
- > Soumya Wadhwa, **Khyathi Chandu**, Eric Nyberg. “*Comparative Analysis of Neural QA models on SQuAD*” in MRQA at ACL 2018. [\[paper\]](#)
- > **Khyathi Chandu**, et al. “*Code-Mixed Question Answering Challenge : Crowd-sourcing Data and Techniques*” in CALCS at ACL 2018. [\[paper\]](#)
- > **Khyathi Chandu**, Thomas Manzini, Sumeet Singh, Alan Black. “*Language Informed Modeling of Code-Switched Text.*” in CALCS at ACL 2018. [\[paper\]](#)
- > **Khyathi Chandu**, Parvathy Geetha, Alan Black. “*Tackling Code-Switched NER : Participation of CMU.*” in CALCS at ACL 2018. [\[paper\]](#)
- > **Khyathi Chandu**, Aakanksha Naik, Aditya Chandrasekar, Zi Yang, Niloy Gupta, Eric Nyberg. “*Tackling Biomedical Text Summarization : OAQA at BioASQ 5B.*” in BioNLP at ACL 2017. [\[paper\]](#)
- > *Ontology-Based Retrieval & Neural Approaches for BioAsq Ideal Answer Generation* in BioAsq at EMNLP 2018. [\[paper\]](#)
- > *Extraction Meets Abstraction : Ideal Answer Generation for Biomedical Questions* in BioAsq at EMNLP 2018. [\[paper\]](#)

PUBLICATIONS

Technical Reports

- > Amazon Alexa team “*Building CMU Magnus from User Feedback*”. in Amazon Alexa Prize Summit 2017. [\[Report\]](#)
- > “*Textually Enriched Neural Module Networks for Visual Question Answering*”. [\[Arxiv\]](#)
- > “*Entity Skeletons as Intermediate Representations for Visual Storytelling*”. at BayLearn 2020 [\[link\]](#)
- > “*Step-by-step learning of sequence, semantic and generation tasks in code-switching*”. on-line soon

ACADEMIC HONORS & AWARDS

- > **Rising Stars 2020** : Selected and invited to Rising Stars 2020 at UC Berkeley.
- > **Shortlisted** and Nominated for **Apple Fellowship 2020**
- > **BioAsq Challenge** : Winners of sixth edition of BioAsq Challenge [\[link\]](#)
- > **CMU LTI Graduate Fellowship** : Fully funded covering tuition, travel expenses & monthly stipend.
- > **Amazon Alexa Prize Sponsorship** : Our team was amongst 12 others around the world to be awarded 100,000\$ stipend by Amazon to compete in the Alexa Prize.
- > **ISCA Grant** : The grant includes 1-year ISCA membership and cash amount to support travel costs.
- > **S.N. Bose Scholarship 2015** : Awarded to top 1.5% students at national level to carry out summer research internship in the US. [\[link\]](#)
- > **WeCNLP Travel Grant (Facebook)** : Travel Grant to present my work on grounded sequential generation at WeCNLP 2019.
- > **Research Award -IIIT-H 2015** : Awarded for undergraduate students actively pursuing research.
- > **Deans' Academic Merit List** : Received in Fall 2011, Spring 2012, Fall 2013, Spring 2014 in IIIT-H.
- > **Best All Rounder Student IIIT-H 2015** : Awarded for consistent involvement and all round contributions in academics and extra-curricular activities.
- > **Best Project in IISC Summer School (2nd place)**
- > **Best Sports Woman - IIIT-H** : For 3 consecutive academic years 2012, 2013, 2014.
- > **Best Outgoing Student** : Awarded in Sanghamitra School for all round performance.

TEACHING

	Question Answering	CMU, Spring 2018
Design & Engineering of Intelligent Information Systems		CMU, Fall 2017
	Graphics	IIIT-H, Spring 2016 & Spring 2014
	Natural Language Processing	IIIT-H, Fall 2015
	Natural Language Applications	IIIT-H, Spring 2015
	Structured Systems Analysis and Design	IIIT-H, Fall 2014

MENTORED STUDENTS

Project : Content in Visual storytelling	Ruo-Ping Dong, (MCDS student, CMU), Work published at ALVR'20
Project : Biomedical Summarization	Yutong Li, Nicholas Gekakis, Qiuzhe Wu (MCDS students, CMU), Winning team at BioAsq'18
Project : Code-Switching NER	Parvathy Geetha (MS in ECE, CMU), Work published at CALCS'18
Project : Unpaired Style Transfer	Sunjana Kulkarni, Undergrad, CMU