GANGESHWAR KRISHNAMURTHY

21 Holland Drive, Singapore - 271021
www.gangeshwark.com ◇ (+65) 8442 7252 ◇ gangeshwark@ihpc.a-star.edu.sg

RESEARCH EXPERIENCE

Institute of High Performance Computing, A*STAR October 2017 - Present
Research Engineer *Singapore*

Research Group: Human-Centric AI (CHEEM)
Advisors: *Dr. Ho Seng Beng and Dr. Kenneth Kwok*

Atari Game - Causal Learning

- Research on building an AI agent that can play Atari games based on rapid and perceptual causal learning from the environment.
- The work is a combination of novel symbolic learning and classical AI planning algorithms. Work published at AAAI 2017.

Multimodal Sentiment Analysis [code]

- Built strong baselines for sentiment and emotion recognition in different scenarios such as monologue or dialogue.
- Using cognitive approaches for modeling the emotional dynamics in a conversation.
- Investigating and developing novel fusion techniques for multimodal data.

Commonsense Based Question Answering System

- Aim of the project is to build an Question Answering system with commonsense knowledge reasoning.
- Investigating use of script knowledge base for narrative story understanding. (SemEval 2018: Task 11)

Nanyang Technological University January 2017 - April 2017
Research Assistant, Intern *Singapore*

Advisor: *Prof. Chng Eng Siong*

Sentence Boundary Detection in ASR Output

- Aim of the research project was to detect sentence boundaries in a sequence of unpunctuated text from ASR output using both lexical and prosodic features.
- Developed a novel method of using Encoder-Decoder (Sequence to Sequence) based models with Phased-LSTM as cell units.
- Investigated the use of prosodic features extracted from input audio to ASR to improve the accuracy of our model.

Query by Example: Spoken Term Detection

- Built and deployed an end-to-end system to search a query audio in corpus audio in a multi-lingual and multi-speaker environment using various features of an audio such as MFCC, Filter Bank and Bottle-neck.
- The novelty of system was in usage of SPRING-DTW algorithm for similarity measure which improved the accuracy of current state-of-the-art system by 4.5%.

INDUSTRY EXPERIENCE

Microsoft July 2016 - September 2016
Software Development Engineer, Intern *Bangalore, India*

Charted the following projects with Universal Store Team on their advertisement platform, BingAds, to increase Return On Investment of advertisers.

Classification of Advertisements

· Analyzed the effect of classifying advertisements related to games into their subcategories using an SQL-like language named Scope on Petabytes of data.

Advertisements based on user search history

· Devised a new approach to serving ads using Bing Search history of dominant demographic profiles for each game in Windows Store for billions of users.

· All code was reviewed, perfected, and pushed to production (on Petabytes of data).

EDUCATION

Bangalore Institute of Technology, Bangalore, India *August 2013 - May 2017*
Bachelor of Engineering
Overall GPA: 75% (summa cum laude)
Major in Computer Science and Engineering

Department of Computer Science and Engineering

Kendriya Vidyalaya, MG Railway Colony, Bangalore, India *May 2013*
Primary - Senior Secondary School

PUBLICATIONS

"Modeling InterAspect Dependencies for Aspect-Based Sentiment Analysis" [PDF]
Devamanyu Hazarika, Soujanya Poria, Prateek Vij, **Gangeshwar Krishnamurthy**, Erik Cambria, Roger Zimmermann
In Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (**NAACL-HLT**), pp. 266-270.

"A Deep Learning Approach for Multimodal Deception Detection" [PDF]
Gangeshwar Krishnamurthy, Navonil Majumder, Soujanya Poria, Erik Cambria
Published at 19th International Conference on Computational Linguistics and Intelligent Text Processing (**CICLing 2018**), Hanoi, Vietnam

SERVICES

PC Member:

- ACL 2018: First Workshop and Grand Challenge on Computational Modeling of Human Multimodal Language.
- IEEE Computational Intelligence Magazine (CIM): Special issue of CIM on Computational Intelligence for Affective Computing and Sentiment Analysis 2018 (CIACSA 2018).

Reviewer:

- ISWC 2018: 17th International Semantic Web Conference - Research Track.
- CICLing 2018: 19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018.

Others:

- Volunteer at Google Developers Group (GDG), Bangalore.
- Member of DataKind, Bangalore Chapter.

AWARDS & HONORS

Placed in Top 20 in APAC region At Citibank Global Mobile Challenge.

Secured first prize in National Level Future Space Scientist Competition by ISRO & Oracle Corporation

Secured second prize in Hackadroid Hackathon by Google Bangalore (Google Fit API Hackathon)

Won first prize in ACTapult Mobile App Development Challenge by ACTTV Corporation.

Finalist at Student Web Pages Contest by ThinkQuest (Oracle) - International

Honorable mention as "The Best Team" at GSC BrainWaves (Societe Generale Hackathon)