Mukund Rungta

✉ mrungta8@gatech.edu Linkedin (470)815-8007

EDUCATION

Georgia Institute of Technology, *Atlanta, US*
*MS in **Computer Science** Specialization in **Machine Learning*** *Aug. 2021 – Present.*
Thesis under Prof. Alan Ritter

Indian Institute of Technology, Delhi, *New Delhi, India*
B.Tech in Computer Science and Engineering *Jul. 2014 – May. 2018*

PUBLICATIONS

1. **FBF : Bloom Filter for Fuzzy Membership Queries on Strings**, *In proceedings of International Conference of Semantics Computing(ICSC) 2021*
   Rishabh Kumar, Hari P, Mukund Rungta, Swetha Kashinath Phuleker, Hemant Tiwari, Vanraj Vala ***Best Paper Award***
2. **On-Device Extractive Text Summarization**, *In proceedings of International Conference of Semantics Computing(ICSC) 2021*
   Mehak Preet Dhaliwal, Rishabh Kumar, Mukund Rungta, Hemant Tiwari, Vanraj Vala
3. **TransKP: Transformer based Key-Phrase Extraction**, *In proceedings of International Joint Conference on Neural Networks(IJCNN) 2020*
   Mukund Rungta, Mehak Preet Dhaliwal, Rishabh Kumar, Hemant Tiwari, Vanraj Vala
4. **Two Phase Multimodal neural network for app categorization using APK resources**, *In proceedings of International Conference of Semantics Computing(ICSC) 2020*
   Mukund Rungta, Mehak Preet Dhaliwal, Praneet Sherkhi, Hemant Tiwari, Vanraj Vala
5. **RelEmb: A Relevance-based Application Embedding for Mobile App Retrieval and Categorization**, *In proceedings of International Conference on Computational Linguistics and Intelligent Text Processing(CICLING) 2020*
   Ahsaas Bajaj, Shubham Krishna, Mukund Rungta, Hemant Tiwari, Vanraj Vala
6. **MAVI: Mobility Assistant for Visually Impaired Using Deep Learning and Cloud Services**, *In proceedings of International Conference on VLSI Design(VLSID) 2019*
   Anupam Sobti, Rajesh Kedia, Mukund Rungta, Sarvesh Chandoliya, Chetan Arora, M. Balakrishnan
7. **Classification-based Adaptive Web Scraper**, *In proceedings of International Conference on Machine Learning and Applications(ICMLA) 2017*
   BVS Ujjwal, Bharat Gaind, Abhishek Kundu, Anusha Holla, Mukund Rungta

WORK EXPERIENCE

Georgia Institute of Technology, *Teaching Assistant*
Course: Machine Learning CS4641 *Aug. 2021 – Present.*

Microsoft, *Hyderabad, India*
Software Engineer II *Sept. 2020 – Aug. 2021*

- **Multi-Class Classification**: End-to-end ownership of building and deploying machine learning model for classification of verbatims by Admin Users of O365 products.
- **Intelligent diagnostic of Signal Service(IDSS)**: Worked towards automation of monthly reports for analyzing the Net Promoter Score(NPS) change across various segments and dimensions.
- **One survey service**: Integrated Logging & Incident management service with the Service Fabric application for application management in production.

*Received Best Project Award in **Fix.Hack.Learn**(FHL) for automating monthly report thereby, reducing substantial human intervention Spring 2021*

Samsung Research, *Bangalore, India*
Software Engineer *Jun. 2018 – Aug. 2020*
*On device unified search engine for all applications on Mobile using **Lucene** framework to retrieve **personalized** search results.*

- **Transliteration**: Developed and **commercialized** On-Device model for transliteration of English to Korean & vice versa for relevant search results for name of person and geographical locations. Implemented normalized language representation using **Sequence to Sequence** model with Attention.
- **Key-Phrase Extraction**: Modelled **Transformer** based **multi-head attention** for sequence labeling with pre-trained embedding to extract important key phrases from text documents like messages, emails and notes.

- **On Device Text Summarization**: Worked with character-level neural network with BiLSTM layer followed by time distributed dense layer for classification. **ROUGE** score at par with the extractive state of the art models.
- **Contacts**: Integrated the search with Contacts Provider viz. Dialer, Call Log, Contacts by implementing the Boolean search queries. Improved the performance of Contact Search by **20X** by using **on demand filling** of Cursor Window.
- **Folder Suggestion**: Commercialized end to end algorithm and flow for suggestion of folder names based on its constituent applications. Released as plugin in latest Home Star - OneUI2.0

*Received **Samsung Citizen Award** - March 2020 - for releasing the Transliteration Engine and publications in conferences.*
*Won the **Best Demo award** for implementing Semantic Search using Query Expansion in the Samsung's Annual Technical Event 2018.*

Samsung Research, *Bangalore, India*
Software Engineering Intern, Samsung Pay *May. 2017 – Jul. 2017*

- **Classification** of different coupon elements into multiple classes using **decision tree** and **regular expression**.
- **Designed** the **algorithm** to extract offer articles from Document Object Model structure of mutable websites using tree edit distance and common ancestor models.

SKILLS & INTERESTS

Research Interest: Natural Language Processing(NLP), Information Retrieval(IR)

Languages: Python, C++, Java, C#

Deep Learning Frameworks: PyTorch, TensorFlow, Keras

Tools/Applications: Android Studio, Visual Studio, Eclipse, Azure, MATLAB, PowerBI

SCHOLASTIC ACHIEVEMENTS

- **All India Rank 88** in IIT-Joint Entrance Exam Advanced among **1.4 million** students. (*2014*)
- Selected for **KVPY fellowship** (KVPY is a National Program of Fellowship in Basic Sciences, initiated by the Department of Science and Technology, Govt. of India) (*2014*)
- Awarded **Samsung Citizen Award** Q1 2020-21 for Technical Excellence (*2020*)
- **Patent** granted for On-Device Transliterated search by Samsung Electronics. *Under the process of filing*. (*2020*)
- **Patent** granted for Automatic Folder suggestion using Morphological Application Embedding by Samsung Electronics. *Under the process of filing*. (*2020*)
- Awarded **Best Paper Award** at International Conference of Semantics Computing (*2021*)

LEADERSHIP & EXTRA-CURRICULAR

- House Secretary of Kumaon Hostel, leading a 3-tier team of 6 secretaries to manage hostel affairs of 500+ students.
- Led a team of 40 students as Creative Coordinator at Rendezvous, anuual cultural fest of IIT Delhi.
- Winner of many inter and intra college level art competitions
- Volunteered for an NGO, Avanti Fellows, wherein required to motivate Government school students to pursue Science.
- Member of Aarohan Teaching Project, wherein required to mentor a high school student in Mathematics and Science.

REFERENCES

- M. Balakrishnan: Professor, Computer Science and Engineering, Indian Institute of Technology Delhi
- Chetan Arora: Associate Professor, Computer Science and Engineering, Indian Institute of Technology Delhi
- Rijurekha Sen: Assistant Professor, Computer Science and Engineering, Indian Institute of Technology Delhi
- Hemant Tiwari: Software Architect, On-Device AI, Samsung Research Institute Bangalore