Tushaar Gangavarapu

Automated Quality Assistance
Kindle Content Quality Algorithms
Books Org., Amazon.com, Inc.

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A. Education

2015−2019	Undergraduate in Information Technology with specialization in Artificial Intelligence (rank: 3/104), National Institute of Technology Karnataka. Thesis: *Psychological aspects and behavioral traits in social media language.* Committee: Ram Mohana Reddy Guddeti (chair), Sowmya Kamath S

Scholarships and honors

Huawei national scholarship for academic excellence, 2018−2019.

National higher secondary education scholarship for excellence (national rank: 10), 2014−2015.

South Indian Mathematics Olympiad medal of excellence (rank: 32), 2012.

B. Employment

09/2021−	Applied Scientist, Kindle Content Quality Algorithms, Amazon.com, Inc.
01/2020−08/2021	Research Engineer (natural language processing), Kindle, Amazon.com, Inc.
06/2019−12/2019	Software Development Engineer, Consumer Engagement, Amazon.com, Inc.
2018−2019	Scientific researcher, Healthcare Analytics and Language Engineering lab, National Institute of Technology Karnataka.
05/2018−07/2018	Software Development Intern, Kindle Create, Amazon.com, Inc.
2017−2019	Research candidate, Human Centered Computing Group, National Institute of Technology Karnataka.
2017	Research Intern, Center for Pattern Recognition and Machine Intelligence, People's Education Society University.

C. Representative publications

Research interests

Natural language processing and understanding (with applications in biomedical and healthcare informatics).

Psychological and behavioral assessment and modeling.

Social and cognitive sciences (understanding the implications of intelligent tools in shaping individual personality).

Learning sciences (game-based learning and assessment).

Journal articles

Veena Mayya, Sowmya Kamath S., Gokul S. Krishnan, and Tushaar Gangavarapu. Multi-channel, convolutional attention based neural model for automated diagnostic coding of unstructured patient discharge summaries. *Future Generation Computer Systems*, 118:374–391, 2021.

Tushaar Gangavarapu, Gokul S Krishnan, Sowmya Kamath S, and Jayakumar Jeganathan. FarSight: Long-Term Disease Prediction Using Unstructured Clinical Nursing Notes. *IEEE Transactions on Emerging Topics in Computing*, 9(3):1151–1169, 2021.

Tushaar Gangavarapu, C. D. Jaidhar, and Bhabesh Chanduka. Applicability of machine learning in spam and phishing email filtering: review and approaches. *Artificial Intelligence Review*, 53(7):5019–5081, 2020. [Review article].

Tushaar Gangavarapu, Aditya Jayasimha, Gokul S. Krishnan, and Sowmya Kamath S. Predicting ICD-9 code groups with fuzzy similarity based supervised multi-label classification of unstructured clinical nursing notes. *Knowledge-Based Systems*, 190:105321, 2020.

Tushaar Gangavarapu and Nagamma Patil. A novel filter–wrapper hybrid greedy ensemble approach optimized using the genetic algorithm to reduce the dimensionality of high-dimensional biomedical datasets. *Applied Soft Computing*, 81:105538, 2019.

Refereed full papers in conference proceedings

Tushaar Gangavarapu and C. D. Jaidhar. A Novel Bio-inspired Hybrid Metaheuristic for Unsolicited Bulk Email Detection. In *Computational Science – ICCS 2020*, pages 240–254. Springer, 2020.

Aditya Jayasimha, Tushaar Gangavarapu, S. Sowmya Kamath, and Gokul S. Krishnan. Deep Neural Learning for Automated Diagnostic Code Group Prediction Using Unstructured Nursing Notes. In *Proceedings of the 7th ACM IKDD CoDS and 25th COMAD*, CoDS COMAD 2020, page 152–160, New York, NY, USA, 2020. Association for Computing Machinery.

Tushaar Gangavarapu, Gokul S Krishnan, and Sowmya Kamath S. Coherence-based Modeling of Clinical Concepts Inferred from Heterogeneous Clinical Notes for ICU Patient Risk Stratification. In *Proceedings of the 23rd Conference on Computational Natural Language Learning (CoNLL)*, pages 1012–1022, Hong Kong, China, nov 2019.

Tushaar Gangavarapu, Aditya Jayasimha, Gokul S. Krishnan, and Sowmya Kamath S. TAGS: Towards Automated Classification of Unstructured Clinical Nursing Notes. In *Natural Language Processing and Information Systems*, pages 195–207. Springer, 2019.

Tushaar Gangavarapu, Himadri Pal, Pratyush Prakash, Suraj Hegde, and V. Geetha. Parallel OpenMP and CUDA Implementations of the N-Body Problem. In *Computational Science and Its Applications – ICCSA 2019*, pages 193–208. Springer, 2019.

D. Professional service

Recent invited talks

Learning to Predict: Tree-based Classification. Guest lecture at the Machine Learning University, Amazon.com, Inc, 2020.

Cognitive and Affective Assessments in Game-based Simulated Environments. Invited talk at the Department of Information Technology, National Institute of Technology Karnataka, 2020.

Greedy Evolutionary Feature Selection for Biomedical Data. Invited talk at the Department of Information Technology, National Institute of Technology Karnataka, 2020.

On the Convergence of High Performance Computing and Machine Intelligence. Invited talk at the National Workshop on High Performance Computing and Applications (HPCA 2019), National Institute of Technology Karnataka.

Exploring Latent Human Traits Through Social Media Modeling. Guest lecture at the Department of Information Technology, National Institute of Technology Karnataka, 2019.

Game-based Learning and Assessment: A Case Study of Mobile-VR Game. Guest lecture at the Department of Information Technology, National Institute of Technology Karnataka, 2019.

Building Predictive Applications Using Social Media Digital Footprints. Invited talk at the National Workshop on Predictive Analytics and Applications (PAA 2019), National Institute of Technology Karnataka.

Refereeing

2021	Amazon Machine Learning Conference (AMLC) 2021, *Machine Learning*.
2020	Frontiers of Intelligent Computing: Theory and Applications (FICTA) 2020, Healthcare Analytics and Language Processing (HeAL) 2020 program co-chair.

Scientific activities

2020	Co-organizer of AQuA-tic ConScience: Books machine learning ideation and brainstorming group, Amazon.com, Inc.
2018	Research Assistant for Applied Soft Computing and Genetic Algorithms (IT355), National Institute of Technology Karnataka.
2018	Teaching Assistant for Computer Communications and Networking (IT251), National Institute of Technology Karnataka.
2016	Teaching Assistant for Machine Intelligence and Neural Learning Algorithms, Winter Mentorship Programme, National Institute of Technology Karnataka.

Membership in professional organizations

Association for Computational Linguistics (including SIG on Natural Language Learning (ACL SIGNLL)).

Institute of Electrical and Electronics Engineers (including IEEE Computer Society).

University committees

2016−2019	Executive member, Institution of Engineers (IE), National Institute of Technology Karnataka.
2016−2019	Executive member, Web Enthisiasts' Club, National Institute of Technology Karnataka.
2016−2019	National Institute of Technology Karnataka Student Ambassador, Intel Artificial Intelligence.
2016−2018	National Institute of Technology Karnataka Student Ambassador, CodeNation.

September 22, 2021