

Hrishikesh Kulkarni

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Google Scholar

EDUCATION

- Georgetown University** Washington DC, USA
M.S. + Ph.D. - Computer Science 2020 - 2025
- Savitribai Phule Pune University** PVGCOET, Pune MH, India
B.E. - Computer Engineering 2016 - 2020

R&D EXPERIENCE

- Instacart** San Francisco CA, USA
Machine Learning Engineer II (Search & Discover) June 2025 - Present
- Lowe's Companies Inc.** Charlotte NC, USA
Data Science Intern (Mentor: Dr. S. Kallumadi) May 2024 - Aug 2024
- Georgetown University** Washington DC, USA
Research Assistant (C.S. Dept) Aug 2020 - Present
- National Insurance Academy** Pune MH, India
Research Intern (Mentor: Dr. S. Page) Jun 2019 - Aug 2019
- iKnowlation Research Labs** Pune MH, India
Research Intern (Mentor: Dr. P. Chande) Jul 2017 - Dec 2017

TEACHING EXPERIENCE

- Information Retrieval (COSC-488)** Georgetown University
Teaching Assistant (Professor: Dr. Nazli Goharian) Aug 2022 - Dec 2022
- Introduction to DBMS (COSC-280)** Georgetown University
Teaching Assistant (Professor: Dr. Nazli Goharian) Aug 2022 - Dec 2022
- Data Mining (COSC-285)** Georgetown University
Teaching Assistant (Professor: Dr. Nazli Goharian) Aug 2021 - Dec 2021
- Open Source Club** Pune MH, India
Founder and Mentor Aug 2018 - May 2020

OTHER EXPERIENCE

- Google Summer of Code - GNU Compiler Collection (GCC)** Remote
Summer Intern (Mentors: Martin Liska, Jan Hubicka) May 2018 - Aug 2018
- Kaizen Infosys** Pune MH, India
Summer Intern (Mentor: Nenadd Chandorkar) May 2017 - Jul 2017

SELECTED PUBLICATIONS

- On the Interplay Between Graph Quality, Traversal Strategies, and Performance of ANN Retrieval Methods:**
Hrishikesh Kulkarni, Sean MacAvaney, Nazli Goharian, Ophir Frieder
SIGIR-AP 2025
- Adaptive Weight Tuning with Gradual Negative Matching for LLM Unlearning:**
Hrishikesh Kulkarni, Nazli Goharian, Ophir Frieder
SemEval 2025
- GRIT: Graph-based Recall Improvement for Task-oriented E-commerce Queries:**
Hrishikesh Kulkarni, Surya Kallumadi, Sean MacAvaney, Nazli Goharian, Ophir Frieder
WWW LLM4ECom 2025
- Gradual Negative Matching for LLM Unlearning:**
Hrishikesh Kulkarni, Nazli Goharian, Ophir Frieder
ECIR 2025
- LexBoost: Improving Lexical Document Retrieval with Nearest Neighbors:**
Hrishikesh Kulkarni, Nazli Goharian, Ophir Frieder, Sean MacAvaney
DocEng 2024
- Genetic Approach to Mitigate Hallucination in Generative IR:**
Hrishikesh Kulkarni, Nazli Goharian, Ophir Frieder, Sean MacAvaney
SIGIR Gen-IR 2024
- Genetic Generative Information Retrieval:**
Hrishikesh Kulkarni, Zachary Young, Nazli Goharian, Ophir Frieder, Sean MacAvaney
DocEng 2023
- Lexically-Accelerated Dense Retrieval:**
Hrishikesh Kulkarni, Sean MacAvaney, Nazli Goharian, Ophir Frieder
SIGIR 2023

- **Knowledge Augmentation for Early Depression Detection:**
Hrishikesh Kulkarni, Sean MacAvaney, Nazli Goharian, Ophir Frieder
AAAI W3PHIAI 2023
- **TBD3: A Thresholding-Based Dynamic Depression Detection from Social Media for Low-Resource Users:**
Hrishikesh Kulkarni, Sean MacAvaney, Nazli Goharian, Ophir Frieder
LREC 2022
- **High-Quality Dialogue Diversification by Intermittent Short Extension Ensembles:**
Zhiwen Tang, Hrishikesh Kulkarni, Grace Hui Yang
ACL Findings 2022
- **Sentiment Progression Based Searching and Indexing of Literary Textual Artefacts:**
Hrishikesh Kulkarni, Bradly Alicea
Springer NLDB 2021
- **Pivot Point Based Intelligent System to Associate Creative Textual Artefacts:**
Hrishikesh Kulkarni, Bradly Alicea
Springer IEA/AIE 2021
- **Cultural, Emotional, and Associative Traits to Determine Literary Inclination:**
Hrishikesh Kulkarni, Bradly Alicea
PsyArXiv 2020
- **Context vector convergence of computational behaviour and cultural traits for team selection:**
Hrishikesh Kulkarni, Manisha Marathe
Inderscience Journal IDIDS 2021
- **Computational Psychology to Embed Emotions into Advertisements to Develop Emotional Bonding:**
Hrishikesh Kulkarni, Prachi Joshi, PK Chande
Indian Journal of Psychological Science 2019
- **Personalized Newspaper Based on Emotional Traits Using Machine Learning:**
Hrishikesh Kulkarni, Tejas Joshi, Nikhil Sanap, Rohan Kalyanpur, Manisha Marathe
IEEE ICCUBEA 2019
- **Cultural Association Based on Machine Learning for Team Formation:**
Hrishikesh Kulkarni, Bradly Alicea
IEEE ICCUBEA 2019
- **Machine Learning Based Cultural Suitability Index (CSI) for Right Task Allocation:**
Hrishikesh Kulkarni, Manisha Marathe
IEEE ICECCT 2019
- **Multi-Agent System for Customer Behavior Tracking Using Shoppers Path Traversal:**
Hrishikesh Kulkarni, P Patil, R Menon
IEEE ICECCT 2019
- **Computational Psychology to Embed Emotions into Product to Increase Customer Affinity:**
Hrishikesh Kulkarni, Prachi Joshi, Pradip Chande
Springer ICICCT 2019
- **Cultural Affinity through Associative Machine Learning and Behavioral Computation:**
Hrishikesh Kulkarni, Bradly Alicea
NAPS IPC 2018
- **Computational Psychology to Embed Emotions into News or Advertisements to Increase Reader Affinity:**
Hrishikesh Kulkarni, Prachi Joshi, Pradip Chande
NAPS IPC 2018
- **Multi-Graph based Intent Hierarchy Generation to Determine Action Sequence:**
Hrishikesh Kulkarni
Springer ICDECT 2017
- **Thought Process based Team Member Selection Using Contextual Sentiment Closeness:**
Hrishikesh Kulkarni
IEEE I2CT 2017
- **Intent Action Ontology and Tone Matching Algorithm for Organizing News Articles:**
Hrishikesh Kulkarni
IEEE ICECDS 2017
- **Intelligent Context Based Prediction using Probabilistic Intent-Action Ontology and Tone Matching Algorithm:**
Hrishikesh Kulkarni
IEEE ICACCI 2017
- **Contextual Data Representation Using Prime Number Route Mapping Method and Ontology:**
Hrishikesh Kulkarni
IEEE ICCUBEA 2017

PATENTS

- **WO2019026087 - An intelligent context based prediction system:**
Hrishikesh Kulkarni
WIPO (Indian Patent) 2017

HONORS AND AWARDS

- LADR (SIGIR '23) now implemented in Apache Lucene which powers Fortune 500 search engines
- ECIR 2025 Support Grant
- NSF Student Travel Grant for Generative AI Workshop at Microsoft Research 2023
- ACM SIGIR 2023 Student Travel Grant
- Merit-based Graduate School full tuition scholarship and research assistantship stipend award for 5 years - Georgetown University 2020
- Best Outgoing Student Award: Computer Engineering, PVGCOET, SPPU, Pune 2019-2020
- Best Paper Award: Hrishikesh Kulkarni, Bradly Alicea, "Cultural Association Based on Machine Learning for Team Formation", IEEE ICCUBEA 2019
- Best Paper Award: Hrishikesh Kulkarni, "Contextual Data Representation Using Prime Number Route Mapping Method and Ontology", IEEE ICCUBEA 2017
- Only candidate selected by GNU Compiler Collection (GCC) for Google Summer of Code (GSOC) 2018
- Founded Open Source Club at PVGCOET Pune 2018
- Student representative for IQAC (Internal Quality Assurance Cell) PVGCOET 2018-2020 (out of 1200 students)
- PVG Merit Award: First admission award - 2016 (out of 500 students)
- Stood Sixth in High School Scholarship - 2011 (out of 30000 students)

SKILLS

- Highly proficient in Python, TensorFlow, PyTorch and also worked on projects in C, C++, Java and R

LANGUAGE PROFICIENCY

- Native/Bilingual proficiency (read, write and speak) in English, Marathi and Hindi