

RAGHAV KAPOOR

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EDUCATION

- Carnegie Mellon University, School of Computer Science** Pittsburgh, PA
Masters, Intelligent Information Systems (ML/NLP Specialization), GPA: 4.17/4.0 Aug 2022 - (Exp) Dec 2023
Advisors: Dr. Graham Neubig, Dr. Yonatan Bisk | **Teaching Assistant:** Search Engines (Dr. Jamie Callan)
Courses: Advanced NLP, Multimodal Learning, Search Engines, Introduction to ML, Advanced DL, Cloud Computing
- Netaji Subhas Institute of Technology, Delhi University** New Delhi, IN
Bachelor of Engineering - Computer Engineering; GPA: 9.11 (Department Rank: 5) Aug 2015 - May 2019
Courses: Data Structures, Analysis Of Algorithms, Networking, Operating Systems, Databases, Artificial Intelligence

TECHNICAL SKILLS

- Languages and IT Constructs** Python, C/C++, Shell, ML System Design, Linux, Java, Groovy, SQL, JavaScript
- Tools/Technologies** Pytorch, OpenAI Gym, Huggingface, Keras, OpenCV, AWS, Flask, Git, Unity3D, Kubernetes

INDUSTRY/RESEARCH EXPERIENCE

- Goldman Sachs** Bengaluru, India
Associate, Software Engineer | GS Electronic Trading Platforms Jan 2022 - Jul 2022
 - Built and managed nanosecond latency trading systems for large volume stocks and options flow worth billion dollars.
 - Developed a tool using Java to effectively distribute short sell locates to clients, increasing daily trade volume by 35%.
 - Drove initiatives with external vendors in US exchange connectivity space to enhance trade liquidity with darkpools.
- Analyst, Software Engineer | GS Electronic Trading Platforms* Jun 2019 - Dec 2021
 - Managed load capacity planning and effectively redesigned the order management system (C++) to cut latency by 40%.
 - Designed an ML/NLU based chatbot for traders to answer queries from traders, reducing human dependence by 60%.
 - Qualified Chartered Financial Analyst Level 1 exam (Top 10%) to hone functional competencies and upskill juniors.
- Summer Analyst Intern, Software Engineer | GS Electronic Trading Platforms* May 2018 - Jul 2018
 - Developed a web based monitoring solution using Python, Flask, Shell that curated all host related information from single API and performs health check for hosts to enhance the resiliency.
- MIDAS Lab, IIT Delhi** New Delhi, India
Research Intern - Natural Language Processing, AI for Social Good Aug 2018 - Jun 2019
 - Invented an LSTM cum transfer learning model for Hinglish offensive text classification (Best poster award in AAI)
 - Researched and trained own word embeddings for code-mixed languages (Achieved state of the art accuracy: 87%)
 - Led the dataset curation, annotation and cleaning initiative in the lab for 5000+ hinglish tweets for model pipeline.

PROJECTS

- Excalibur - Embodied Exploration and QA** (With Dr. Graham Neubig, Dr. Yonatan Bisk, Allen Institute for AI)
 - An embodied RL agent for QA that learns through human experience in VR in addition to existing multimodal settings.
 - Tech Stack:** Reinforcement Learning - OpenAI Gym, AI2Thor, Python; Virtual Reality - Unity3D, C#
- Search Engine** (Advisor: Dr. Jamie Callan)
 - A search engine in Java that supports boolean retrieval, BM25, and Indri retrieval algorithms using query expansion, LeToR, and diversification using PM2 and xQuAD over 4 million documents.
 - Tech Stack:** Java, SVM Rank, ListNet, Lucene
- Dvesh Prahari: Attackers in Disguise** (B.E. Project Thesis)
 - A system to detect hate speech and sarcasm in political memes and twitter pages in code-switched languages.
 - Tech Stack:** Python, NLTK, Keras, OpenCV, Scikit-learn
- PropSafe - Secure Land Registration and Fraud Detection System** (Hackathon Winner)
 - A web application designed to automate the land/real estate transaction system used by land registry offices in India.
 - Tech Stack:** ML - Python, Scikit-learn, Keras; Blockchain - Truffle, Javascript; Web app - Node.js, HTML

PUBLICATIONS

- EXCALIBUR: Evaluating and Encouraging Embodied Exploration** CVPR 2023 [*Accepted*]
- Hate Me Not: Detecting Hate Inducing Memes in Code Switched Languages** AMCIS 2022 [[paper](#)]
- Transfer Learning for Detecting Hateful Sentiments in Code Switched Language** Springer 2020 [[paper](#)]
- Mind your language: Abuse and offense detection for code-switched languages:** AAI 2019 [[paper](#)]

HONORS AND AWARDS

- Winner**, Smart India Hackathon' 19, Govt. of India - For Project PropSafe (Among 6000+ teams) [2019]
- Best Student Poster Award and Travel Grant**, For Paper: Mind Your Language at AAI, Hawaii [2019]
- Honourable Mention**, ACM ICPC-18 Gwalior-Pune Regionals [2018]
- Awarded Merit Scholarship Twice**, for Academic Excellence (NSIT). Ranked in the top 5% in department[2017-18]

VOLUNTEER EXPERIENCE AND LEADERSHIP

- Vice President and Club Mentor**, GS Toastmasters Club, Handled member concerns, maintained influx of new members into the club. Mentored 40+ members. Won Triple Crown, Pioneer Gold Award for public speaking.
- Senior Member and Educator**, Algorithm Society of College, Taught algorithmic concepts to 60+ students weekly.