

# RAGHAV KAPOOR

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## EDUCATION

- **Carnegie Mellon University, School of Computer Science** Pittsburgh, PA  
*Masters of Science, Intelligent Information Systems, Language Technologies Institute* Aug 2022 - (Exp) Dec 2023  
**Courses (Ongoing):** Introduction to Machine Learning (10601), Advanced NLP (11711), Search Engines (11643)
- **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:** C/C++, Python, Shell, Java, System Design, Linux, Groovy, SQL, JavaScript
- **Tools/Technologies:** Scikit, NLTK, Rasa NLU, TensorFlow, Keras, OpenCV, Flask, NodeJS, Git, Unity3D, React

## 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 [AAAI])
  - 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

- **Dvesh Prahari: Attackers in Disguise (B.E. Project Thesis):** (Dec 2021)
  - Deals with detecting hate speech and sarcasm in political memes and twitter pages in code-switched languages.
  - Curated and annotated an Indian Political Memes dataset and used code-switched embeddings over CNN-LSTM model.**Tech Stack:** Python, NLTK, Keras, OpenCV, Scikit-learn [code][ppt]
- **PropSafe - Secure Land Registration and Fraud Detection System:** (Mar 2019)
  - A web application designed to automate the land/real estate transaction system used by land registry offices in India.
  - Detects property frauds using AI based checks and smart contracts/blockchain for maintaining tamper-free records.**Tech Stack:** ML - Python, Scikit-learn, Keras; Blockchain - Truffle, Javascript; Web app - Node.js, HTML [code][ppt]
- **Upchaar - Automated Medical Appointment System:** (Apr 2018)
  - Developed a central portal for patients, doctors and hospitals to manage and provide efficient healthcare by improving appointment scheduling in hospitals with provision to followup, rescheduling and SMS or app notifications.**Tech Stack:** Python, Django, Java, Android, HTML, Bootstrapper [code][ppt]

## PUBLICATIONS

- **Hate Me Not: Detecting Hate Inducing Memes in Code Switched Languages:** K Rajput\*, R Kapoor\*, K Rai\*, P Kaur. Americas Conference on Information Systems (\* Denotes equal contribution) [2022][paper]
- **Transfer Learning for Detecting Hateful Sentiments in Code Switched Language::** K Rajput, R Kapoor, P Mathur, P Kumaraguru, RR Shah, Deep Learning-Based Approaches for Sentiment Analysis, Springer [2020][paper]
- **Mind your language: Abuse and offense detection for code-switched languages::** R Kapoor, Y Kumar, K Rajput, RR Shah, P Kumaraguru, R Zimmermann, Association for Advancement of Artificial Intelligence [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 AAAI, 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.
- **Volunteer**, Community TeamWorks at Goldman Sachs, to create educational material for intellectually challenged kids.