SHREYA GUPTA

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EDUCATION

Bachelors of Technology in Software Engineering *2016-20 (Expected)*

Delhi Technological University, New Delhi, India; CPI: 9.23/10 (Department Rank 3 out of 98 students)

FEATURED COURSEWORK: Machine Learning, Deep Learning, Natural Language Processing, Data Mining, Discrete Mathematics, Multivariate Calculus, Modeling & Simulation

RESEARCH EXPERIENCE

Defence Research and Development Organisation (DRDO), New Delhi Sep'19-Present

Research Intern, Automatic QA Generation from Advertisement, Advisors: Dr. S.P. Mishra, Dr. Anil Goswami

- Designing a Question-Answer (QA) system that can answer user queries on job postings by DRDO. Baseline: DrQA

Software Engineering Lab, Delhi Technological University, India Sep'18-Feb'20

Bachelor Thesis on Deep Learning in SQPM, Supervisor: Dr. Ruchika Malhotra

- Empirical study critically and visually analyses the application of deep learning architectures in evaluating Software Quality Prediction Metrics (SQPM) like defect prediction, effort estimation, and fault localisation.
- Identified shortcomings of the existing work and enlisted future guidelines for its use and application.

UCLA Institute of Pure and Applied Mathematics (IPAM) and Google, LA Jun-Aug'19

Research Intern & RIPS-NSF Scholar, Mentors: Dr. Bao Wang, Vardan Akopian & Scott Schneider

- Designed end-user privacy protection framework while making Google's Ads Data Hub useful to advertisers.
- Framework used bayesian probability to assess the likelihood of uniquely identifying a record in a dynamic dataset.
- Quantified user data leak by novel recomputation of SUDA scores, commonly utilized in Statistical Disclosure Control.

Neuroscience Lab, Indian Institute of Technology, Delhi

Independent Research Intern, Supervisor: Dr. Tapan Gandhi

- Inferring the process of object recognition from brain signal Jun-Dec'18
  - Proposed a novel method for face recognition from MEG signals of human brain.
  - Reduced the effective time stamps from 100-360 ms to 120-240 ms, enhancing computational efficiency by 54%.
  - Found neurons in the brain responsible for visual identification using support-vector machines with gaussian kernel.

PUBLICATIONS

Malhotra R., **Gupta S.**, Singh T.
"A Systematic Review on Application of Deep Learning Techniques for Software Quality Predictive Modeling"
Under Review in Artificial Intelligence Review

Aggarwal S.*, Fuentes M.* **Gupta S.***, Prins A.*, Wang B., Akopian V., Schneider S.
"Risk Assessment and Measurement of Privacy Leaks" *Poster Presentation at CUR REU Symposium*
AMS Contributed Paper Session at Joint Mathematical Meet'20 (Outstanding Paper Award)
Patent under progress with Google, LA

Gupta S., Gandhi T.,
"Identification of Neural Correlates of Face Recognition using Machine Learning Approach"[1], 2019,
Advances Intelligent Systems and Computing (AISC), vol. 992, pp 13-20, Springer Singapore (Scopus Indexed)

* indicates equal contribution

ACADEMIC ACHIEVEMENTS & AWARDS

- Google Women TechMaker Scholar'19, awarded to students working for diversity & inclusion in Computer Science (acceptance rate: 2%)
- RIPS-NSF Scholar'19, one of the 36 selected interns from 1000+ applications worldwide (acceptance rate: 3%)
- Infosys Makeathon'19, Runners-Up (amongst 20 teams)
- Department Rank 1 (in 98 students), University Rank 3 (in 1800 students) in fourth semester (GPA: 9.83/10).
- 99.73 Percentile in Engineering Entrance Examination, ranked 4661 among 1.4 million students (2016)
- NTSE Scholarship for being in top 500 among all schools in India (2012).
- Athlete of the year - DAV Public School, for winning accolades in Volleyball, Basketball and Athletics (2016).

[1] doi:10.1007/978-981-13-8798-2_2

- National Level Volleyball Player led the team that ranked 4th at DAV National Games, 2014.

PROJECTS

Bilingual Word Sense Disambiguation — Mar'19-Present

- Performing bilingual WSD on low resource languages, Hindi and Marathi. Using parallel WSD.

Real-Time Epidemic Spread Mapping (Smart India Hackathon'19)[2] — Feb-Mar'19

- Created a biomedical web and android application for Thermo Fischer.
- Maps crowdsourced time-series data, visualises in real time; predicts the spread of current/recurring epidemic.
- Predicts the forthcoming epidemic using FastAI and PyTorch; alerts the dispensaries if medication falls shorter than the upcoming demand using Flask API; alerts the people of a spread and hospitals nearby.

Tracking Complaint Status (BrainWaves'19) — Jan-Feb'19

- Worked with 44,000 complaints (reason, summary, company response, transaction type etc.) to classify the complaint status into one of four categories for SocGen, French multinational banking company.
- Used BERT-as-service to encode sentence embeddings of complaints and company response into 768 feature vector.
- Deployed two layered BILSTM to automate tracking.

Voice Assistant for LinkedIn (Wintathon'19)[2] — Jan'19

- Designed a voice assistant for LinkedIn; enables users to search for people & job openings, navigate and maintain (add/delete/view/edit) profile sections using voice command. Integrating with Amazon Alexa.
- Used part-of-speech tagging, NER, constituency tree parsing, skip gram model, conceptNet and coreNLP.

Sentiment Analysis for Movie Review Classification (Self undertaken)[2] — Dec'18

- Used Word2Vec to classify IMDb's movie reviews as positive or negative with an accuracy of 83%.
- Used bag-of-words, word vectors, POS tagging and clustering; analysed model performances.

ATM Surveillance in Banks (Infosys Digital Makeathon'19)[2] — Oct'18

- Automated ATM Surveillance System to reduce manual monitoring and prevent thefts and skimming inside ATM.
- Designed face recognition, using FaceNet and optimised object classification, using CNN, to identify and report abnormal activities in banks in real-time.

TECHNICAL STRENGTHS

Programming C++, C, Python, R
Familiar-with HTML, CSS, PHP, Java
Frameworks MATLAB, PyTorch, Tensorflow, Keras, OpenCV, Sci-Kit, SQLite, Oracle, Flask

POSITIONS OF RESPONSIBILITY

- Founder & Director, MLNerdie Delhi [3] Organising peer-reviewed sessions and modules (Nov'19 - Present)
- Lead, Women Who Code Delhi [4,5] (Aug'18 - Present)
- Core Team Member, Delhi Women in Machine Learning and Data Science (WiMLDS) [5](Aug'18 - Present)
- Creative Head, Aahvaan, DTU, largest Sports Fest of North India. Monitored budget of Rs. 20,000; led a team of 40+ students. (Aug'17 - May'18)
- Captain, Girls Volleyball Team, DTU. Team won Inter-College National Level Competitions (Sep'16 – Present)
- Actor & Writer, Pratibimb, Theatre Society of DTU. Scripted and enacted in plays on National Integration and Drugs in India. (Aug'16- Dec'17)

[2] https://github.com/ShreyaGupta08 [3] https://www.mlnerdie.com [4] https://www.womenwhocode.com/delhi/about
[5] https://github.com/ShreyaGupta08/Talks