

SHREYA GUPTA

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EDUCATION

Delhi Technological University

2016-20

B.Tech in Software Engineering, GPA: 9.25/10.00

FEATURED COURSEWORK: Deep Learning, Natural Language Processing, Data Mining, Optimization Techniques

HONORS: First Class with Distinction, Department Rank 3 out of 98 students

RESEARCH EXPERIENCE

Laboratory for Computational Social Systems (LCS2), IIIT Delhi

May'20-Present

Research Assistant on COVID-19 Claim Detection and Verification, Supervisor: Dr. Tanmoy Chakraborty

- Led a team of four to engineer a deployable product for Accenture Labs on Misinformation Detection and Analysis
- Curated the first dataset of 10,000 COVID-19 tweets for claim detection; formed and released annotation guidelines
- Designed a novel meta-embedding generalised model for structural encapsulation, leveraging dependency embeddings and Part of Speech skip-grams and amalgamated with semantic representations using BERT

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
- Quantified data leak by novel recomputation of SUDA scores, commonly utilized in Statistical Disclosure Control
- Implemented Bayesian probability to assess likelihood of uniquely identifying a record in a dynamic dataset

Neuroscience Lab, Indian Institute of Technology, Delhi

Jun-Dec'18

Research Intern on Inferring the process of object recognition from brain signal, Supervisor: Dr. Tapan Gandhi

- Proposed a novel method for face recognition from MEG signals of human brain
- Found neurons in brain responsible for visual identification using support-vector machines and gaussian kernel
- Reduced effective time stamps from 100-360 ms to 120-240 ms, enhancing computational efficiency by 54%

PUBLICATIONS¹

Gupta S., Singh P., Sundriyal M., Akhtar S., Chakraborty T.

"LESA: Linguistic Encapsulation and Semantic Amalgamation Based Generalised Claim Detection from Online Content"

Under Review in The 2021 Conference of the European Chapter of the Association for Computational Linguistics (EACL)

Malhotra R., **Gupta S.**, Singh T.

"A Systematic Review on Application of Deep Learning Techniques for Software Quality Predictive Modeling"

2020 International Conference on Computational Performance Evaluation (ComPE), Shillong, India, pp. 332-337 (Scopus Indexed)

Aggarwal S.* , Fuentes M.* **Gupta S.***, Prins A.* , Wang B., Akopian V., Schneider S.

"Risk Assessment and Measurement of Privacy Leaks"

Best Poster Award, ACSS 2020, AMS Contributed Paper Session at Joint Mathematical Meet'20 (Outstanding Paper)

Patent under progress with Google, LA

Gupta S., Gandhi T.,

"Identification of Neural Correlates of Face Recognition using Machine Learning Approach", 2019,

Advances Intelligent Systems and Computing (AISC), vol. 992, pp 13-20, Springer Singapore (Scopus Indexed)

* indicates equal contribution

ACADEMIC ACHIEVEMENTS & AWARDS

- Masters in Computer Science Admits from Columbia University and University of Pennsylvania (Fall'20)
- Google Women TechMaker Scholar'19, awarded to students working for diversity & inclusion in Computer Science (acceptance rate: 2%)
- RIPS-NSF Scholar'19, only Indian selected from 400 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)

¹ <https://shreyagupta08.github.io/project>

- NTSE Scholarship for being in top 500 among all schools in India (2012)
- National Level Volleyball Player led the team that ranked 4th at DAV National Games, 2014

PROJECTS

- 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 application of deep learning architectures in evaluating Software Quality Prediction Metrics (SQPM) like defect prediction, effort estimation, and fault localisation
 - Identified shortcomings of existing work and enlisted future guidelines for its use and application
- Real-Time Epidemic Spread Mapping (Smart India Hackathon'19)¹ Feb-Mar'19
- Built a biomedical web and android application for Thermo Fischer
 - Visualized and leveraged crowdsourced time-series data in real time to predict spread of recurring epidemics
 - Predicted forthcoming epidemic with FastAI and PyTorch; designed a system to alert dispensaries if medication falls shorter than upcoming demand through Flask API and alert 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 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)¹ 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
 - Used part-of-speech tagging, NER, constituency tree parsing, skip gram model, conceptNet and coreNLP
- ATM Surveillance in Banks (Infosys Digital Makeathon'19)¹ 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 ² Organising peer-reviewed sessions and modules (Nov'19 - Present)
- Lead, Women Who Code Delhi ^{3,4} (Aug'18 - Present)
- Core Team Member, Delhi Women in Machine Learning and Data Science (WiMLDS) ⁴(Aug'18 - Nov'19)
- 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 situation of Drugs in India. (Aug'16- Dec'17)

² <https://www.mlnerdie.com> ³ <https://www.womenwhocode.com/delhi/about> ⁴ <https://github.com/ShreyaGupta08/Talks>