SHREYA GUPTA

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EDUCATION

Qualification	Passing Year	School/University & Board	Score	Rank
B.Tech-Software Engg.	2016-2020 (expected)	Delhi Technological Univ.	9.2/10 CGPA	Department Rank-3 (out of 98 students)
XII (Sr. Sec.)	2016	DAV Public School, CBSE	95.6%	Batch Rank-6 (out of 410 students)

Featured Coursework: Machine Learning, Deep Learning, Natural Language Processing, Discrete Mathematics, Linear Algebra, Multivariate Calculus, Modeling and Simulation, Object Oriented Software Engineering, Compiler Design

WORK AND RESEARCH EXPERIENCE

- **Software Engineering Lab, Delhi Technological University** [Oct'18 - Present]
  Undergraduate Researcher on Deep Learning in Software Quality Predictive Modeling, Mentor: *Dr. Ruchika Malhotra*
  - Empirical study critically and visually analyses the **use and application of deep learning architectures** in determining Software Quality Prediction Metrics (**SQPM**) like defect prediction, effort estimation, fault localisation etc.
  - Identified shortcomings of the existing research and enlisted future guidelines of use for DL in SQPM.
  - ***'Empirical Study of Deep Learning in Software Quality Predictive Modelling'*** under Peer-Review.
- **UCLA Institute of Pure and Applied Mathematics and Google LA** [Jun - Aug'19]
  Research Intern and RIPS-NSF Scholar, Mentors*: Dr. Bao Wang, Vardan Akopian & Scott Schneider*
  - Worked with IPAM, UCLA and Google, to ensure end-user privacy while making online search datasets useful to advertisers.
  - Developed methods to quantify safety and risk in users' privacy during transactions and suggested mitigation strategies.
- **Neuroscience Lab, Indian Institute of Technology, Delhi** [May - Dec'18]
  Neuroscience-Inferring the process of object recognition from brain signal using MATLAB, Supervisor: *Dr. Tapan Gandhi*
  - 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, decreasing computational complexity by 54%.
  - Found neurons in the brain responsible for visual identification using **Support Vector Machines** with Gaussian Kernel.
  - '***Identification of Neural Correlates of Face Recognition using Machine Learning Approach***' published in *Advances in Intelligent Systems and Computing* (Scopus Indexed). doi: 10.1007/978-981-13-8798-2_2

ACADEMIC PROJECTS

- **Bilingual Word Sense Disambiguation (WSD)** [Mar'19 - Present]
  - Performing parallel bilingual WSD on two low resource languages, Hindi and Marathi.
- **Real-Time Epidemic Spread Mapping** *(Smart India Hackathon'19)* [Feb - Mar'19]
  - Created a biomedical **web and android application** for **Thermo Fischer**.
  - Maps **crowdsource** and **historical 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 Google's **BERT-as-a-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*) [Jan'19]
  - Designed a voice assistant for LinkedIn; enables users to **search** for people and job openings, **navigate** and **maintain** (add/delete/view/edit) **profile** sections using voice command only. Integrating with Amazon Alexa.
  - Model uses Part-of-Speech (**POS**) tagging, **NER** and constituency **tree parsing**, **skip gram model, conceptNet and coreNLP**.
- **Sentiment Analysis for Movie Review Classification** (*Self undertaken*) [Dec'18]
  - Used Google's **Word2Vec** to classify **movie reviews** obtained from IMDb as **positive or negative** with an **accuracy of 83%**.
  - Created models using **bag-of-words, word vectors, POS tagging**, and clustering; analysed model performances.
- **Happiness Index Analysis to Facilitate Policy Making** [Sep-Oct'18]
  - Used World Gallop Poll to **rank countries** based on their Happiness Index. Conducted a local poll of 250+ responses and **ranked Delhi** in the world rankings using a **Multivariate Linear Regression** model with an accuracy of **91.28%**.
  - Found socio-economic attributes that influence happiness of the people to assist Delhi Government in policy making.
- **ATM Surveillance in Banks** (*Infosys Digital Makeathon'19*) [Oct'18]
  - Constructed a working prototype which used AI, ML and Deep Learning architectures to perform ATM Surveillance in Banks.
  - Designed **face recognition, using FaceNet**, optimised **object classification, using CNN**, to identify and report abnormal activities in banks in real-time, reducing manual monitoring and preventing thefts and skimming.

AWARDS AND ACADEMIC ACHIEVEMENTS

- **Google Women Techmaker Scholar 2019,** awarded to students who work for diversity and inclusion in the field of Computer Science.
- **RIPS Scholar 2019, IPAM, UCLA**, one of the 36 selected interns from 1000+ applications (acceptance rate: 3-4%)
- **First Runners Up,** Infosys Digital Makeathon'18 for designing a cost effective solution to provide ATM Surveillance in Banks.
- **Department Rank 1** with a CGPA of 9.83/10.00 in fourth semester. **Department Rank 3** in Software Engineering overall.
- **99.69 Percentile** in JEE Mains based on class 12th board results and JEE Mains score.
- **Athlete of the year** - DAV Public School, for winning accolades in Volleyball, Basketball and Athletics (2016)
- **National Level Volleyball Player** - led the team that ranked 4th at DAV National Games, 2014
- **NTSE Scholarship** for being in top 500 among all schools in India (2012).

TECHNICAL SKILLS

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

POSITIONS OF RESPONSIBILITY

- **Core Team Member and Evangelist,** Women Who Code Delhi (Aug'18-Present)
  - Lead 'Practically ML[1]', a machine learning workshop series of 5 sessions, teaching ML from practical perspective. Taught 300+ students, undergraduates, researchers and industry professionals, collectively. Held competitions.
  - Collaborated with ZS Associates and represented WWCode Delhi.
  - Featured in WWCode Global's bi-weekly newsletter Code Review and WWCode Delhi's Applaud Her section.
- **Core Team Member,** Delhi Women in Machine Learning and Data Science (WiMLDS) (Aug'18-Present)
  - Volunteered in MLCC powered by Google. Mentored a group of 7 students in building their first ML project from scratch.[2]
  - Organised 'Everything ML' and delivered a talk on 'NeuroML[3]', interdisciplinary work between neuroscience and machine learning.
- **Vice-Captain**, Girls Volleyball Team, DTU. Helped build a team of 12+ girls for the first time in DTU (Aug'17-Present)
- **Creative Team**, Aahvaan, DTU. Monitored a budget of Rs. 20,000; led a team of 40+ students. (Feb'18)
- **Actor and Core-Team member**: Pratibimb, Theatre Society of DTU (Aug'16-Dec'17)

[1] https://github.com/WomenWhoCodeDelhi/PracticallyML
[2] https://github.com/ShreyaGupta08/Breast-Cancer-Detection-using-Machine-Learning
[3] https://github.com/ShreyaGupta08/WiMLDS-Talk-NeuroML