# Spandan Sing

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**EDUCATION**

**Rajiv Gandhi School of Intellectual Property Law**, IIT, Kharagpur

*LL.B (Hons) , Intellectual Propert Law*                              2024-2027

**Jadavpur University**, Jadavpur, Kolkata

*Bachelor in Engineering, Computer Science and Engineering(2020-24)*      SGPA: 7.48

**Vivekananda Mission High School**,Panskura,West Bengal

*All India Senior School Certificate Examination(2020),*            Percentage: 78.8

**Kendriya Vidyalaya No-2,Kharagpur**,West Bengal

*All India Secondary School Examination(2018),*            Percentage: 89

**TECHNICAL PROJECTS**

**Deep Cervical Cancer: Cervical Cancer Classification using Deep Learning**:
-This project focused on leveraging Deep Learning techniques to develop a robust classification system for cervical cancer.
- Implemented Deep Learning models to accurately classify cervical cancer, demonstrating a profound understanding of neural network architectures.
-Analyzed and preprocessed extensive medical imaging data using the SIPakMed dataset, ensuring high-quality input for the models to enhance predictive accuracy.
-Employed advanced feature extraction methods and model optimization techniques to achieve superior classification results.
-Produced a high-performing classification system with promising results, showcasing the potential for real-world clinical applications in cervical cancer diagnosis.

**Hybrid Kernelized K-Means Clustering for Bengali Text Data**:
-Designed and implemented a hybrid kernelized K-means clustering algorithm for Bengali text, combining kernelized K-means clustering, incorporating frequency vectorization, n-gram word mapping, and innovative similarity measurements.
-Demonstrated improved clustering performance (Rand Index: 0.659, Entropy: 1.58) with a hybrid kernel approach, optimized via dynamic programming.
-Addressed language-specific preprocessing and computational challenges using Python, NumPy, banglanltk, and blt.

**Comparative Analysis of Image Classification Models on SIPaKMeD Cell Dataset**:
-Developed and evaluated multiple image classification models (CNN, VGG16, DenseNet121, ResNet18) for classifying five types of cervical cell images from the SIPaKMeD dataset, 4049 isolated cell images, manually labeled and categorized into five classes: Dyskeratotic, Koilocytotic, Metaplastic, Parabasal, Superficial-Intermediate.
-Achieved highest test accuracy (97.55%) and F1-score (96) with fine-tuned ResNet18, demonstrating the effectiveness of transfer learning for medical image analysis.
-Led model implementation, data preprocessing, and comparative analysis using Python, Keras, and PyTorch

**EXPERIENCE**

**Moot Court Participation, Civil Procedure Code Moot Court Participation**
Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur     20 March 2025
-Participated in an internal moot court at Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur, focused on the application and interpretation of the Civil Procedure Code.
-Prepared and submitted a detailed memorial, demonstrating skills in procedural law, legal drafting, and structured argumentation.
-Enhanced understanding of court procedures and effective legal research through simulated litigation practice.

**Organizing Committee Member, IIT-NHRC National Moot Court Competition**
Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur     7-9 Jan 2025
-Worked closely with faculty, legal professionals, and the NHRC, enhancing event management, communication, and leadership skills in a legal context - Contributed to the organization of the National Moot Court Competition in collaboration with the National Human Rights Commission (NHRC), India.
-Gained exposure to contemporary issues at the intersection of human rights, constitutional law, and technology, and developed a deeper understanding of advocacy and legal research through the competition's focus.

**Student Leader, Campus Ambassador Programme**
OutLawed India Foundation                                        Nov 2024 – Jan 2025
- Selected as Student Leader for the Campus Ambassador Programme, leading outreach and awareness activities on campus.
- Coordinated student engagement initiatives and represented the foundation at various events.

**Legal Intern**
Advocate Sharmistha Maity, Midnapore Judges Court, West Bengal          **Dec 2024**
- Gained firsthand exposure to civil and criminal proceedings at the District & Sessions Judge's Court and Sub-Divisional Court, including divorce and property disputes.
- Assisted in preparing and organizing case files and drafting summaries for courtroom use.
- Conducted legal research to identify relevant case law using platforms like Manupatra and LexisNexis,SCC Online.
- Analyzed courtroom practices, gaining insights into advocacy and judicial processes.
- Participated in client interviews, developing communication and management skills under a senior advocate's guidance.
- Strengthened time management, legal drafting, and case analysis skills for litigation.

**Core Team Member, Legal Aid Campaign**
Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur     Aug 2024 – Nov 2024
- Selected & served as a core team member in the Third Prof. V.S. Mallar Memorial Legal Aid Competition, 2024, under the aegis of the Ministry of Law and Justice, Government of India.
- Organized and executed legal literacy and awareness campaigns, including street plays and interactive sessions in schools and villages, focusing on issues like child marriage prevention, government structure awareness, and POCSO Act education.
- Contributed to campaign impact analysis, outreach strategies, and community engagement, resulting in increased legal awareness among students and local residents.

**Moot Court Participation, Cnstitutional Moot Court Participation**
Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur          6 Nov 2024
-Served as counsel for petitioners in constitutional moot court at Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur, addressing denial of marriage rights to LGBTQ persons under Articles 14, 15, 19, and 21 of the Constitution of India.
-Drafted and submitted a comprehensive memorial, including advanced constitutional arguments, analysis of Supreme Court precedents (e.g., Navtej Singh Johar, Puttaswamy, NALSA), and references to international human rights instruments (UDHR, ICCPR).
-Argued for marriage equality, highlighting issues of discrimination, legal disadvantages (inheritance, spousal, adoption rights), and the need to align domestic law with global human rights standards.

**National Conference on Citizenship, Immigration and Refugees: Issues, Challenges, and Roadmap for Future India**
Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur          Aug 2024
-Collaborated with faculty, legal professionals, and participants, demonstrating teamwork, adaptability, and a commitment to legal scholarship.
-Enhanced understanding of contemporary legal frameworks and human rights implications through active participation in conference sessions and discussions

**COMPUTER SKILLS**
**Languages**: Java,Python,C,C++,AI,ML,DL,PR,MySQL.
**Web Development**: HTML, CSS, JavaScript.
**Applications**: Eclipse, Visual Studio, Git, VirtualBox, MySQL, Oracle 11g.
**Operating Systems**: Linux, Mac OSX, Windows.

**LEGAL SKILLS**
**Legal Reasearch**: Manupatra,SCC Online,HeinOnline,Questel,Thomson Reuters Westlaw,LexisNexis.
**Patent Searching**: WIPO,Espacenet,Google Patents.

**INTERESTS**
Participated in NCC, cleared Certificate-A Examination,
Represented school in various sports and Extracurricular Events.,
Led our University Football Team and bagged 1st Position for our Department
Professional swimmer, martial artist, and NSS volunteer.